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THESIS

THE TYPEWRITER IN BUSINESS

SUBMITTED BY

MARY A. BURNS

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INDEX

Part I

Introduction 1

Statement of Acknowledgment 3

A. The Present Status of Business 4

a. As a Profession 8
b. As a Science 13
c. As a Means of Employment 16
d. As a Social Unit 23

B. Status of Business in the Early Nineteenth Century 26

C. The Invention and Development of the Typewriter in Business 31

D. Changed Vocational Outlets 51

a. The Elimination of the Correspondence Clerk 51
b. The Increased Employment of Women 52

E. The Present Use of the Typewriter in Business 60

F. Summary of Part I 64

Part II

A. The Relationship of Typewriting to Other Fields of Activity 66

a. Relationship of Typewriting to Business Activities 66
b. Relationship of Typewriting to Education 74

B. Business Letter Writing Affected by Growing Use of Typewriter 78

Part III

A. The Public Stenographer 82

B. The Stenographer-Secretary 83

C. Opportunities, Salaries, Working Conditions, and Educational Requirements 84

Part IV

Educational Developments to Meet Business Needs 75

Part V

Gains and Losses 107

a. The Growing Importance of the Typewriter in Business 107
b. The Over-emphasis of the Merely Mechanical Importance of the Typewriter in Business 112

Part VI

A. Historical Development of the Course in Typewriting 115

B. Analysis of Educational Objectives to be Met Through the Teaching of Typewriting 121

C. Correlation of Typewriting with Other Subjects 124

Part VII

A Proposed Course in Typewriting for the Secondary School 126

Part VIII

A. Summary and Conclusions 130

B. Bibliography 136

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ILLUSTRATIVE CHARTS AND DIAGRAMS

1. Leverett S. Lyon's Interpretation of the Two-fold Purpose of Modern Business 5

2. Nation's Activities 7

3. Business as a Science 17

4. The Tread of Population 18

5. The Nation's Workers 19

6. Federal Expenditures 20

7. State Expenditures 21

8. Farm and City Population 22

9. Employment of Women 56

10. Enrollment in Typewriting Classes in Various Types of Schools in 1927-1928 63

11. Occupational Analysis of Graduates of C. B. A., B. U. 85

12. Outline of Suggested Business Course of 1898 96

Thomas Carlyle (1795-1881) was constantly assailed by fear regarding the social effects of a growing industrialism, and a large part of his life was spent in an attempt to reconcile the material facts of life with what he held to be the ideal purpose of living. He hated "The Age of Steam", and his often-quoted "Commerce is King" was an expression of that hatred.

Carlyle's essays and an age of rapidly expanding industry were contemporary. How much one of these effected the other can not be exactly determined, but if Carlyle were living today he might be amazed at the immensity of modern business as well as surprised by the curious ways in which industry has realized both his greatest hopes and his greatest fears.

Although we have no direct statement from Carlyle regarding the attempts made during his lifetime to perfect a practical writing-machine, we can be reasonably sure that the pessimistic philosophy of Carlyle would fail to allow recognition of the typewriter as an instrument that has made possible many social benefits that his essays held to be essential.

The typewriter in business has been a vital social force, and to make this fact somewhat apparent is the purpose of this thesis. In the development of this purpose, business will be regarded somewhat in the broad sense in which Carlyle applies the term "Commerce", but for purposes of analysis of statistical material, business will be regarded as the organized conduct of commercial activities in the United States. Consequently, this thesis will concern itself with research in a definitely determined field and with the analysis and interpretation of information available within that field.

The typewriter was definitely a product of the Industrial Revolution and while its invention determined to a large extent the development of modern business, nevertheless the true relation of the typewriter to business can

only be established through consideration of the factors that have been prominent in determining the present status of business as opposed to the status of business in the early Nineteenth Century. So far as possible an attempt has been made to establish this relationship clearly by separate consideration of the gradual development of business and of the invention and development of the typewriter. While these two developments are closely related it can be seen that the development of the typewriter is at least as dependent on the development of business as is business on the development of the typewriter. Consequently the direction of this thesis is two-fold:

First, toward the establishment of business as a profession, as a science, a means of employment, and as a social unit to each of which the relationship of the typewriter will be clear.

Secondly, toward the establishment of the development of the typewriter in such a way as to show its influence on the previous establishment of business.

The divisions of the thesis are the following:

Part I: A brief consideration of the present status of business, the status of business in the early nineteenth century, and the relationship of the typewriter to any changed status that business has assumed today.

Part II: A brief treatment of the relationship of typewriting to other fields of business activity.

Part III: The consideration of vocational outlets made possible by the use of the typewriter in business.

Part IV: The direct influence of the typewriter on Education.

Part V: A comparison of gains and losses effected through the use of the typewriter in business.

Part VI: A study of typewriting in the schools.

Part VII: A Tentative course in typewriting.

Part VIII: A summary and a bibliography.

The facts on which the thesis bases its conclusions were gathered from research in the following fields:

The published material having an interpretation of modern business as its purpose.
Historical material dealing with business development.
Historical material dealing with the development of the typewriter.
Information supplied by the manufacturers of typewriters.
Educational texts and publications that treat Commercial Education and the typewriter in Education.
Government statistics in Industry, Commerce, and Education.

Statement of Acknowledgment

The writer is indebted to Professor Roy Davis for criticism and suggestions given in the preparation and arrangement of this thesis. Special thanks is given to him for his suggestion that a statement regarding the purpose of the thesis be given at the end of the introductory outline. This statement helps to make clear the general direction of the thesis and interprets part one of the thesis as an attempt to make clear the general status of business so that the later chapters having to do with the typewriter may be identified with the gradual development of business. It is felt that only by the consideration of business as such can the importance of the typewriter in the development of business be established. To this end the treatment of the subject has been explanatory and completely substantiated rather than allowed to rest on merely a presentation of the writer's point of view.

The growth of modern business has been twofold in its manifestations. Material expansion has shown itself in the greater utilization of resources, in invention, in the creation of new products or of new markets for old products, and in the organization of business activities as industrial, mercantile, and financial systems. Growth of an ideal of social purpose in business has been evident in the increase of government supervision of industry, trade, and commerce, in the organization of boards of arbitration for the settlement of labor disputes, in the attempts of groups of manufacturers to regulate production, in the cooperative efforts of business organizations to control distribution, price, and quality, in the enlargement of educational purpose to include business-education, and in many other present-day activities in business.

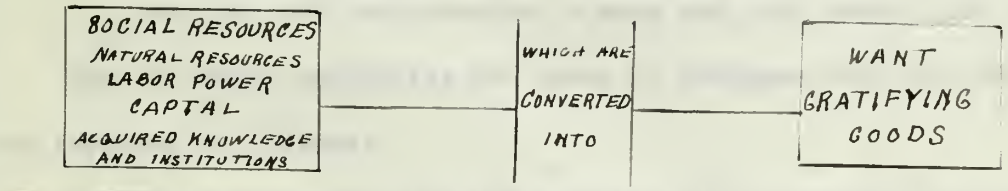
To some extent this twofold development of modern business has been along separate lines, but in many respects there has been a close relationship between material expansion and the development of social purpose in business.

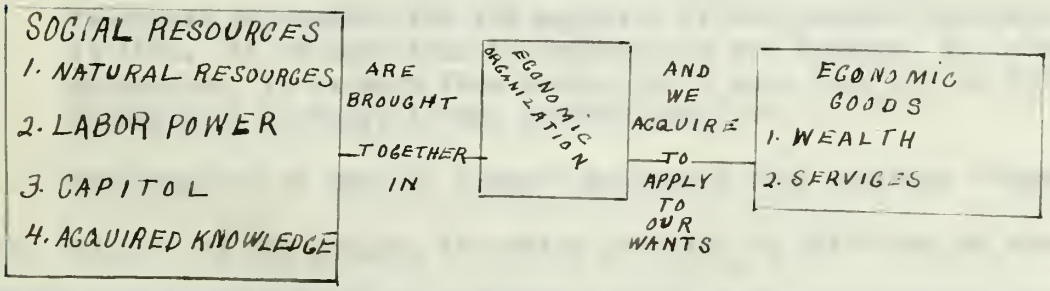
Increased purchasing power, extended credit, and higher standards of living have resulted indirectly, if not directly, from the merely material expansion of business, and to many people these results of the material development of business have been sufficient justification of business purpose. "Nothing succeeds like success" has been somewhat accepted as the motivating purpose of a mechanized civilization, in which "hard times" are identified as the inevitable slowing-up of material progress, and readjustments are made in the security afforded by comparative estimates, statistics, and theories disguised as conclusions. "Commerce is King" has for so long a time been applied to a more benevolent despot than the one Carlyle had in

mind that we have been content in our acceptance of material benefits, and only recently have we awakened to the fact that more affluence has been the cause of the benevolence shown by "King Commerce", who is in reality a doddering old idiot, lavish in his expenditures, prodigal of his favors, and wasteful of his resources. Justification of business purpose from a purely material point of view may be accepted as valid while business is prosperous, but if we are not to be ruled by the grasping, malevolent ruler that Carlyle knew and hated, we must have something more than material success as the guiding purpose of business.

Fortunately, there has been, since Carlyle's time, a nearly constant effort to reconcile business practice with social ideals, and the results of that effort have dignified business and elevated it beyond the competitive level to its present status as a profession, a science, a means of employment, and a social unit.

Leverett S. Lyon, in "Education for Business" recognizes the twofold nature of the development of modern business, and defines business as "that system of economic organization which is at present largely responsible for gratifying human wants". To illustrate his definition, Lyon submits the following diagrams:





L. Education For Business, Leverett S. Lyon, Chapter II, The University of Chicago Press, Chicago, Illinois, 1931

Analysis of the foregoing diagrams will give point to Lyon's definition of business and will make evident the fact that although the provision for "Wants" is the final objective sought in the first diagram, this objective is modified in the second diagram to include not only the material benefit of "Wealth" but the ideal of "Services". Perhaps Lyon did not mean the word "Services" to be interpreted as the modern business ideal of Service, but a careful study of Chapter II of his text reveals the fact that the author is, somewhat reluctantly, conscious of a social purpose in business beyond the mere acquisition of "Want-Gratifying-Goods", and prepares us to interpret as an ideal of business his statement that, "Business, thus, as society is now arranged, is as socially significant as want-gratification. And since want-gratification is concerned, not only with those many wants which enrich the standard of living, but with those which are concerned with the existence of life itself, the function of business, in the present order, is vital.

A happy combination of the material and the ideal points of view toward modern business is the simple code proposed for business by Edward A. Filene:

> "I. A business in order to have the right to succeed must be of real service to the community.
>
> 2. Real service in business consists in making or selling merchandise of reliable quality for the lowest practically possible price, provided that merchandise is made and sold under just conditions" I

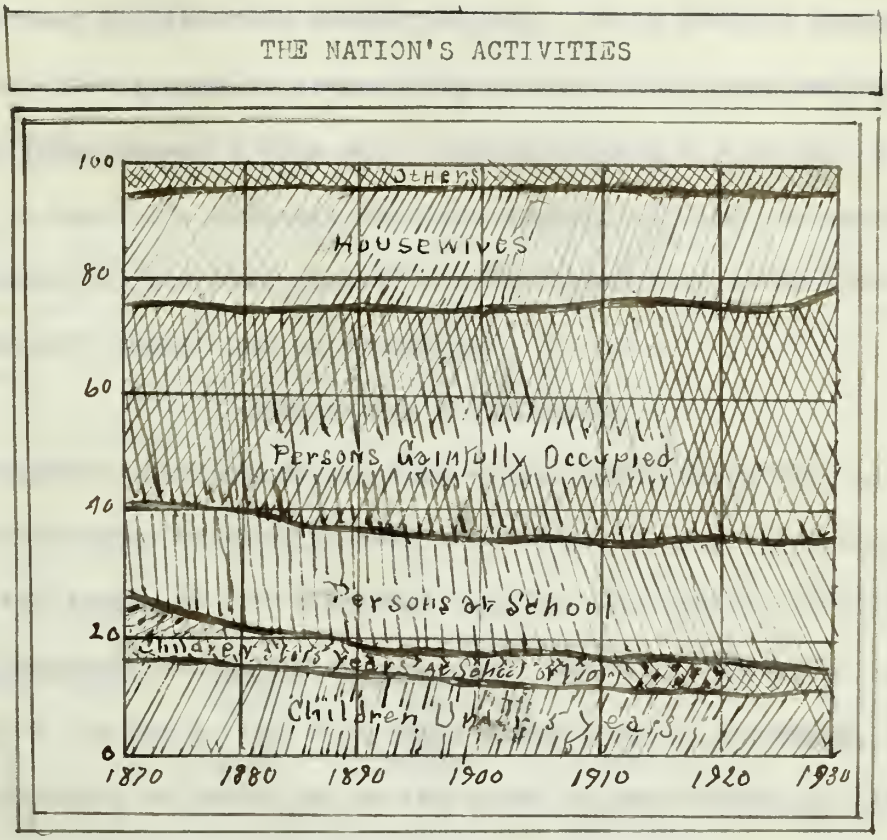
Owen D. Young recognizes the power of business when he analyzes present-day business as follows:

> "Business represents for the majority of our people, the major activity in life. It is more than transportation and finance, it is more than production, it is more than trade, it is more than all of them together; it has made history, it has created law." 2

Confirmation of Owen D. Young's statement that business "represents for the majority of our people, the major activity in life" may be seen in the

1. Edward A. Filene, in "The Ethics of the Profession of Business", Vol. CI of "The Annals of the American Academy of Political and Social Science", May, 1922
2. Owen D. Young, in an address delivered June 4, 1927 at the dedication of the Graduate School of Business Administration, Harvard University.

following graph which appeared in "The New York Times", January 8, 1933, and which with the interpretation quoted below, was based upon material contained in the report of President Hoover's Research Committee on Social Trends:



"This chart reveals the status of America's population. It shows that while the number of housewives and those persons over 15 years of age who depend upon others for a living (under the head of "Others" on the chart) remained fairly stationary between 1870 and 1930, there were notable changes in the four remaining classifications.

"There was a decrease in the number of children under 5, from 14.3 per cent to 9.3 per cent of the total population, while the number of children of 5 to 15 years neither at school nor at work decreased from 10.7 per to 2.9 per cent. On the other hand, the number of persons at school increased from 16.6 per cent in 1870 to 22.7 per cent in 1930, while the number gainfully employed rose until it was greater than these three classifications put together.

"The decline in the number of small children has released many mothers for work outside the home."

Statistics and quoted statements might be multiplied from many sources, but a sufficient number have been given to warrant the conclusion so far as

this thesis is concerned that the present-status of business is a somewhat curious combination of advantages derived from a material expansion that allows business to be generous, and from a developing ideal of service that keeps business in line with social purpose. It is perhaps because of this readily accepted status of present-day business that many people are willing to accept Roger Babson's "The only cure and honest way to make a profit is to render a service", although they are equally willing to question Franklin's "Honesty is the best policy", on the basis that to be thoroughly honest, honesty should not be a policy.

Business As A Profession

In Webster's dictionary the word "profession" is defined as, "That of which one professes knowledge; vocation, if not purely commercial, mechanical, agricultural, or the like; calling; as, the profession of arms. The three professions, or learned professions, are esp., theology, law, and medicine." 1 So far as the dictionary definition is concerned, business is not a profession, at least not in the sense in which theology, law, and medicine are professions. Neither is Education a profession in terms of the dictionary classification of learned professions.

Education has for some time been established as a profession and despite the dictionary definition, is now regarded as a learned profession. The claims of Education to professional status were made in the face of opposition from the older professions and were admitted as valid only when justified on the same basis as the claims of the older professions.

In this justification the identification of Education as a calling engaged in for purposes beyond mere mercenary gain was the essential factor. When Education demonstrated that it had gone beyond the mere "Teaching-

1. Webster's Collegiate Dictionary, G. & C. Merriam Co., Springfield, Mass.

school" period to a position of prominence in social purpose, recognition of the status of Education as a profession of altruistic social significance was readily granted, and what Education has done, business is beginning to do.

The following quotations from "General Business Science" will serve to indicate the change in attitude toward business:

> "In early times the most primitive form of trading was barter. The work originally meant "to cheat," and business was transacted according to a principle the Romans called "Caveat Emptor," which means "let the buyer beware." Before the year 1300, the peddler, the huckster, or the hawker, who went from house to house and from town to town, was called a "cadger" and people looked upon him as a swindler or even as a thief. The great trading fairs held in northern Europe in the fourteenth and fifteenth centuries had their "fakers," who sold trifles. From the name, the people evidently expected to be cheated by them.
>
> "In war time, traders, called "sutlers," followed the armies and were licensed to sell goods and food to the soldiers, but they soon began to sell things that were forbidden. By the time the factory system started in England (from 1750 to 1800), sutlers were those who did the most unpleasant and undesirable kinds of work. The uncertainty of his calling and the dissatisfied buyers made the medieval peddler or petty merchant a wanderer or itinerant. If the buyer was cheated he had no recourse. The doctrine of CAVEAT EMPTOR became part of an early English common law and really resulted in placing blame for getting cheated on the buyer and protected the swindler." 1
>
> "Business men realize the risks they must run in their daily transactions. Associates, employees, and customers must be trusted. As a protection, business concerns use check-protecting devices, safety papers, chemical-proof ink, safes, and burglarproof vaults. They insist upon character references when selecting employees, and they protect themselves against loss by various kinds of insurance. They strive by every means at their command to maintain confidence. Chambers of commerce, associations of advertising and credit men, better-business commissions, and trade associations are some of the modern guardians of high business standards. Keen competition often compels hurried consumation of business transactions. Business depends on customers and the accomodation of them is the earmark of service. The trustworthy business concern, just like the trusted and faithful employee, will be rewarded; the dishonest are soon weeded out and eliminated. Business has set for itself high standards of competition and definite codes of ethics; it demands integrity and loyal cooperation of its employees." 2

In the extracts quoted from "General Business Science" the transition

1. "General Business Science", L. L. Jones & L. Bertschi, Unit 5, The Gregg Publishing Company, 1930
2. "General Business Science", L. L. Jones & L. Bertschi, Unit 5, The Gregg Publishing Company, 1930

from the "Caveat Emptor" attitude in business to the setting of "high standards and definite codes of ethics" is significant, but unless it can be shown that business has reached its present status through a higher motive than that of mere profit, the right of business to qualify as a profession may be challenged. If "high standards of competition and definite codes of ethics" result merely from the tendency of business to practice "honesty" as a "best policy" professional status has not been attained by business. If, however, the changed status of business results from perception of the meaning of business, and from understanding of the use that should be made of business as a gigantic power with vital relationship to society, business is as truly professional as the activities designated by the dictionary as the "three learned professions."

Business, inevery age of history, has been an active force in mankind's advance toward civilization. Material benefits have always accompanied business progress, and these material benefits have made the attainment of ideals possible. Business brings men together in a bond of common interests, it removes personal and local prejudices, it binds groups together by strong ties of association and of mutual and dependent interests, it builds communities, towns, and cities, it makes men venture to sea in ships, it forces them to travel across land by railroads, it controls the great interests of the world, it makes the affairs of men mighty; it is the great organizer of social groups, the repository of social force, and the impetus given social progress. When the social significance of business is fully recognized and when the activities of business are directed with social purpose, business will become, as Education has become, a "learned profession".

That business has already attained this professional status is claimed

by many business men and by many educators. Research in this field reveals for the purpose of this thesis a number of significant statements which are quoted in this part of the thesis and interpreted for the purpose of making evident the point of view of the thesis, namely, that the present status of business is that of a profession.

Rudolph M. Binder, Professor of Sociology at New York University in his book "Business and the Professions" discusses the meaning of the term "profession" and develops the following definition of "profession".

> "A profession is a vocation which one has chosen for reasons of special natural fitness, and for which one has prepared by the acquisition of expert knowledge which is to be increased, if possible, by original contributions in order to serve society better".1

In the light of this definition Professor Binder argues that finance, banking, manufacture, commerce, transportation and communication are professions, and that business "should become a profession". Professor Binder supports his argument with practical illustrations drawn from business transactions that have professional bearing and that are in turn interpreted as professional by the business men involved in the transactions.

Abbott Lawrence Lowell, retured president of Harvard University defines a profession as follows:

> "A profession is composed of rivals, each striving for a share of the employment which at any one time is limited in amount, and of course rarely enough for everyone to have as much as he desires; yet to use the psychological term that has come into popular speech, it is a group, with a group consciousness and a group spirit. Over and above this rivalry it has a sense of a common object, one larger than the personal welfare of the members, one that seeks to raise the level of the profession itself and increase its usefulness to mankind." 2

Ernest W. Calkins invaded the columns of the Atlantic Monthly to make the following significant statement:

> "It is no mere figure of speech to call business a profession. It is getting into the hands of professionally trained men. Its ethical standards are higher, it knowledge broader, and its problems appeal to the professional mind. Its routine, one the sole concern of business men, is

1. "Business and theProfessions", Rudolph M. Binder, Prentice-Hall, Inc., 1922
2. "The Profession of Business", Abbott Lawrence Lowell, The Harvard Business Review, January, 1923

> now no more to it than the routine of a hospital to a surgeon, or the routine of a law court to a lawyer. And its profits, after a comfortable living is assured, are merely the counters that register the success of of the effort." 1

Mr. Thomas William Lamont, a member of the firm of J. P. Morgan and Company, in writing on the subject "The American University And Its Relation To American Progress" makes evident the fact that business itself has changed from the former era of "mere barter and exchange" and has attained professionalstatus equivalent to that which caused the listing of theology, law, and medicine as the "three learned professions" given in Webster's dictionary. It also makes evident the eagerness with which business men welcome academic approval of the professional status of business, although they themselves have been for some time convinced of the fact itself, namely, that Business is in its own right, a profession.

Analysis of the statements quoted in this thesis will lead to the conclusion that the present-day business is professional because of its attainment of purpose beyond that of mere profit. Social consciousness and an ideal of service, the two primary essentials of professional activity seem to be the elements claimed for modern business as a profession. Together with the business men and educators whose opinions have been quoted in this thesis, American public opinion is gradually accepting business as a social institution or as a economic organization by means of which people are provided with goods that gratify human wants.

American business serves a democratic society, or a group of individuals united by common wants and participating through common interests in a common purpose. In America, as no where else, the social significance of business becomes readily apparent, because of the fact that a democratic form of government combining, as it does, mutuality of interest lends itself readily to the development of institutions characterized by social purpose.

1. Quoted in "Spotlights On Commercial Education", Volume IV, No. 1, Ginn & Company, October, 1928

Among American business men there is a definite appreciation of the fact that business must evidence a social purpose, if business is a profession. This appreciation of a social ideal as a prerequisite for professional status may be seen in the following quotations taken from the published opinions of business men:

> "For some years, industry has been beginning to suspect that it is a component part of social arrangements, and that, whether it will or no, it determines them. When it has come to realize this completely it will pay some attention to taking care of its sources of operation and to protecting the value of the social body. Then civilization will no longer be in danger from the deterioration of the man himself".1

> "Motives that move a successful business man are primarily motives of serving his fellowmen, satisfying their needs for greater comforts-----. When the fog is cleared, we shall realize------that here in America we have created a wonderful industrial system whose foundations are set deep in morality and practical idealism." 2

The foregoing quotations seem to establish the fact that business at the present time has social purpose. Whether the statements are sufficiently justified by business practice is another matter, but the statements themselves, with those previously quoted, determine the point of view of this thesis, and somewhat establish the fact that the present status of business is that of a profession and that this present status of business has been arrived at through the gradual development in business of an ideal of service and of social purpose. Mere statement of this point of view would have little weight, but it is felt that the point of view of the thesis as substantiated by business men and educators of prominence, is a valid one and will be further developed by the chapter dealing with the use of the typewriter in business.

Business As A Science

In Webster's dictionary the word "science" is defined as, "Knowledge, as of principles or facts. Accumulated and accepted knowledge systematized

1. "Our Industrial Civilization", The Literary Digest, Dec., 31, 1927, p. 45
2. "Let's Clear Up the Fog", Merle Thorpe, Nation's Business, January, 1928

and formulated with reference to the discovery of general truths, or the operation of general laws; classified knowledge. Any branch or department of systematized knowledge. Art or in the character of a science. If they are applied in actual use, as to the construction of discourse, they become or furnish the working rules of an art." 1

Analysis of the dictionary definition of "science" and of the distinction made between "science" and "art" establishes the following:

1. Science requires knowledge
2. Science systematizes principles formulated with reference to general truths, or the operation of general laws.
3. Science is systematized knowledge
4. Art is the doing of things in accordance with rules formulated to make the mere doing of things effective.
5. Science depends on knowledge; art depends on skill.

In its origin and for some time in its development, Business could not be called a science. The earliest manifestation of business activity was that of individual bartering of something of which a person had a surplus to another person for something which was needed by the person negotiating the exchange. On this simple fabric, business patterned its growth. As wants increased, the necessity of supplying these wants expeditiously, effectively, and economically was accompanied by an increasing desire to exchange profitably and to accumulate profits. Certain techniques and skills were developed and business became an art engaged in for profit and practiced with skill. No special attention was paid to analysis of markets, conservation of resources, or distribution of wealth. Before 1765 business was engaged in primarily for profitable exchange of goods for wealth and no great attention was given to the operation of general laws or to the gaining of knowledge of general truths for the purpose of systematizing the principles thus discovered. By most political economists, the period before 1765, a period in which business was practiced as an art and a period in

1. Webster's Collegiate Dictionary, G. & C. Merriam Co., Springfield, Mass.

which the art of piracy on the high seas was not always distinct from the art of business, is termed as a period when business was dominated by the "mercantile system"

The "mercantile system" held that wealth consisted exclusively of money, and that the more actual money a country had, the more wealth it had. Commerce was encouraged, and nations made every effort to control the balance of trade. Colbert, minister of Louis XIV, carried out the "system" in France, and it prevailed in England and America during the sexteenth, seventeenth, and a large part of the eighteenth century. Though the "mercantile system" was systematized control of business, it was a system based on no particular study of the general laws of business, and in effect, it consisted merely of the assumption by nations of the individual's right to profit through barter and exchange. Money was identified with wealth, and the nation that could secure the most money through mere exchange of goods was considered the wealthiest nation.

Although the "mercantile system" encouraged ruthless competition, selfish interests, and greedy purpose, these very factors forced investigation of the possibility of continuing business practices that were profitable. Those investigations, whatever their cause, led business toward its present status as a science, for they brought about a changed attitude toward the importance of specie, and the introduction of instruments of credit was made possible. This, in turn, brought about the recognition of gold as a medium of exchange rather than as an object to be sought and accumulated as profit. In effect, the collapse of the "mercantile system" may mark the beginning of the science of business, for with the establishment of gold as a medium of exchange and credit begn the systematizing of business principles "formulated with reference to general truth, or the operation of

general laws".

Modern business is so complex in its organization and so intimately related to every factor in modern living that any organization of business principles must take into account the following factors:

1. Business in its relationship to science
2. Business as a science

The chart on the following page may serve as a summary of this part of the thesis and as an attempt to make evident the point of view of the thesis, namely, that the present status of business identifies Business as a Science.

Business As A Means Of Employment

Owen D. Young, in his Harvard Business school address made the statement that business "represents for the majority of our people the major activity in life." Mr. Young's statement takes no special notice of those people who, though not actively engaged in business, are vitally affected by business. Translated into terms of this thesis Mr. Young's statement is equivalent to the statement that business as a means of employment affects the liver and the livelihood of a great majority of our people.

Until recent years, the necessity of keeping people gainfully employed has been only a incidental purpose of business, but as business increased, for one reason or another, standards of living increased, and business began to realize that the new standards of living meant new markets which, in turn, meant new and greater developments in business. Maintenance of standards of living at the attained levels is the only hope for business.

The extent to which employment affects the population of the United States may be seen through a comparison of the following graphs and the statements attached to each graph:

Business As A Science

Economics
- Control of Resources
- Control of Wealth
- Control of Social Factors

Organization of Business

Control of Resources

Location of Business
1. Proximity to sources of material
2. Proximity to markets
3. Availability of labor
4. Suitability of climate

Development of Resources
1. Invention
2. Discovery of new uses of products.

Development of market
1. Production
2. Regulation of demand

Control of Wealth

Organization of Business as:
1. Partnership
2. Corporation

Financial Organization
1. Banking
2. Subscribed capital
3. Borrowed funds
4. Negotiable instruments
5. Working capital

Departmental Supervision
1. Factory management
2. Wholesale system
3. Retail system

Accounting
1. Recordative
2. Constructive

Taxation and Insurance
1. Fixed charges
2. Protection of assets

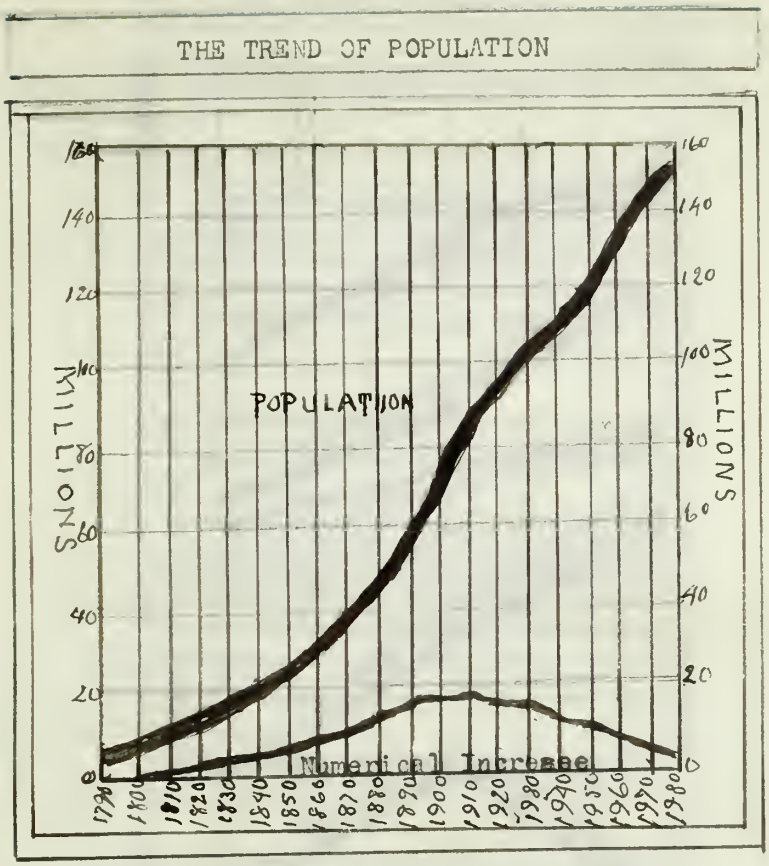
Organization of Credit
1. Inflation
2. Deflation

Rights of Labor
1. Living wage
2. Responsibility for production
3. Participation in profits

Rights of Capital
1. Protection against loss
2. Development of necessary surplus

Rights of Society
1. Protection against unfair competition
2. Protection against unethical practices
3. Protection against unfair monopoly

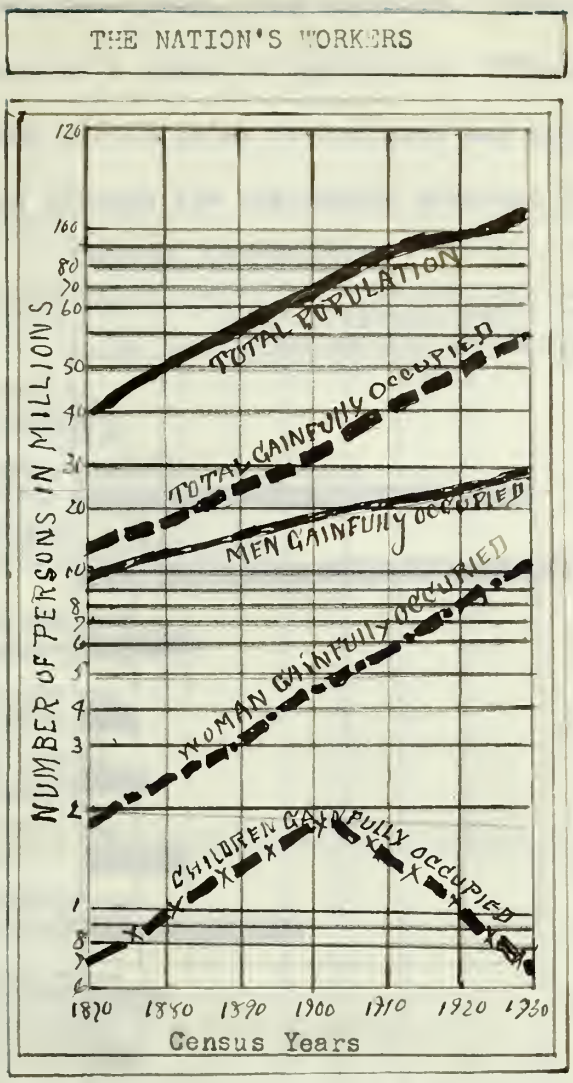
Rights of Government
1. Supervision of business practices
2. Control of public utilities
3. Prior rights to use of natural resources in an emergency
4. Control of institutional developments that may prove dangerous to the Government



"A decrease in the number of persons annually added to our population began in 1923 and is likely to continue. The trend is rapidly toward a stationary population. Those who counted on a swiftly increasing domestic market must revise their ideas. The problem will be to compensate for this trend by trying to raise standards of purchasing power and consumption.

"The future will likely see the population more uniform, as foreign elements are assimilated. The restriction of immigration and the spread of birth control in recent years have brought a decline in the number of persons under 20. There will be almost a 50 per cent increase in the proportion of persons over 65 during the next twenty years and about a 25 per cent increase in the proportion of persons from 45 to 64."1

1. "The New York Times", January 8, 1933, Report of President Hoover's Research Committee on Social Trends



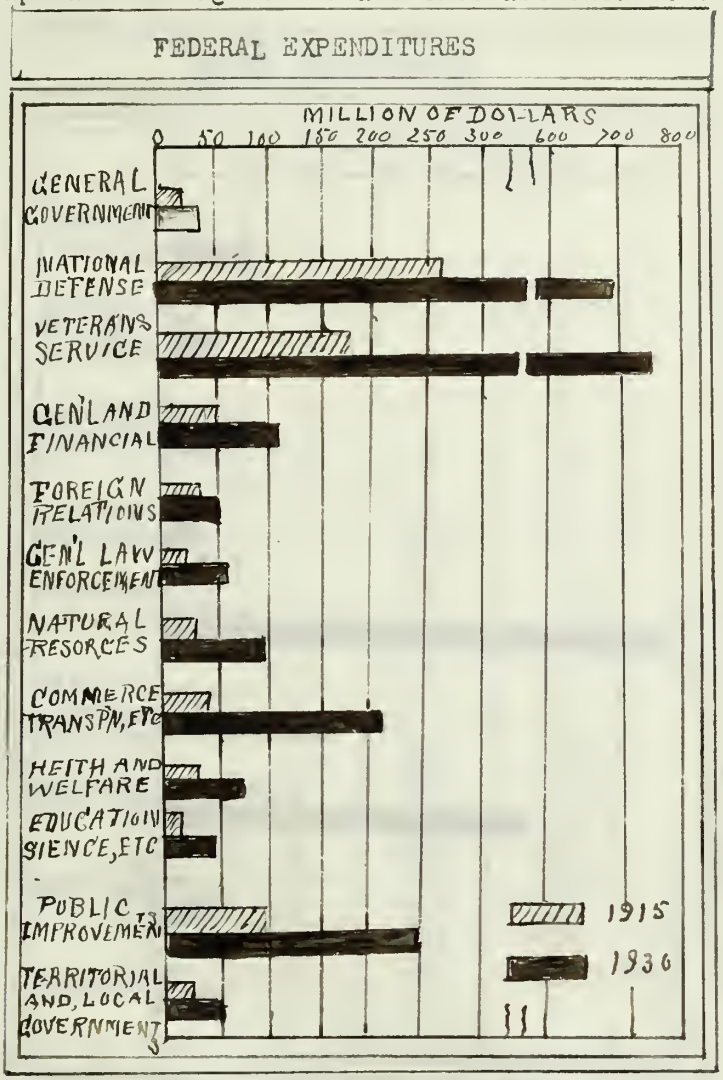
"While the total population increased over 200 per cent from 1870 to 1930, the number of persons gainfully employed grew still more rapidly--about 300 per cent. The proportion engaged in gainful pursuits increased from 32 per cent to nearly 40 per cent in the two decades since 1910. Of the population 16 years of age and over, 57 per cent are now normally employed, as compared with 52 per cent in 1870. Child labor has decreased.

"If housewives are counted among the gainfully employed, the proportion of the total population at work reaches 60 per cent." 1

As business expands, the effects of such expansion are felt by individuals and by the government as well. Increased opportunities for employment are provided by every expanded interest of business, and the necessity of the government establishing some measure of control over these

1. "The New York Times", January 8, 1933, Report of President Hoover's Research Committee on Social Trends

opportunities forces the government into business. This, in turn, strengthens the position of business as a means of employment. The extent to which the United States government participates in business may be made evident through the following graph and through the statements attached to the graph:



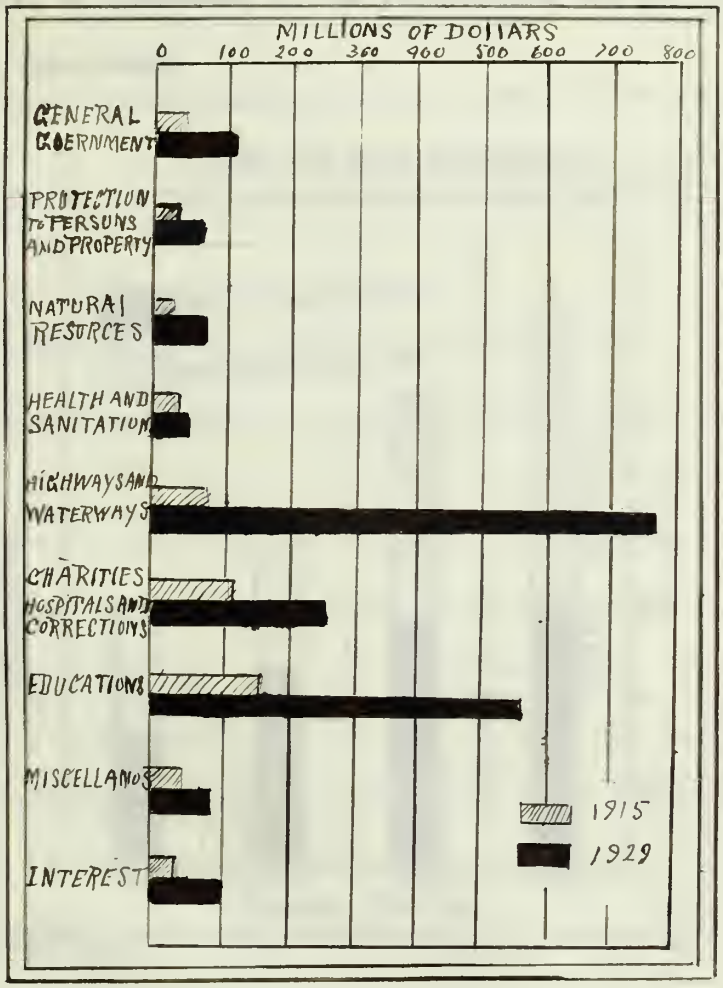
"Since 1914 there has been an increase of 352 per cent in net Federal expenditures, which do not include payments for retirement of debt or costs of the postal service paid from postal revenues.

"The chart above shows the sums spent on various fundtions of the Federal Government in 1915 and 1930. The largest demands upon the Treasury were made for veterans' services, which jumped from $176,075,000 in 1915 to$755,120,000 in 1930, and for national defence services, which climbed from $260,331,000 to $699,970,000. Public improvements showed an increase in cost from $89,067,000 to about $240,000,000; and the promotion and regulation of commerce, transportation and communication

took more than $200,000,000 in 1930, a 400 per cent increase." 1

The extent to which the separate states have participated in business will be indicated in the following graph and in the statement attached to the graph:

STATE EXPENDITURES



"This chart shows the increase in the various expenditures of the State Governments between 1915 and 1929. No allowance is made for changes in purchasing power of the dollar.

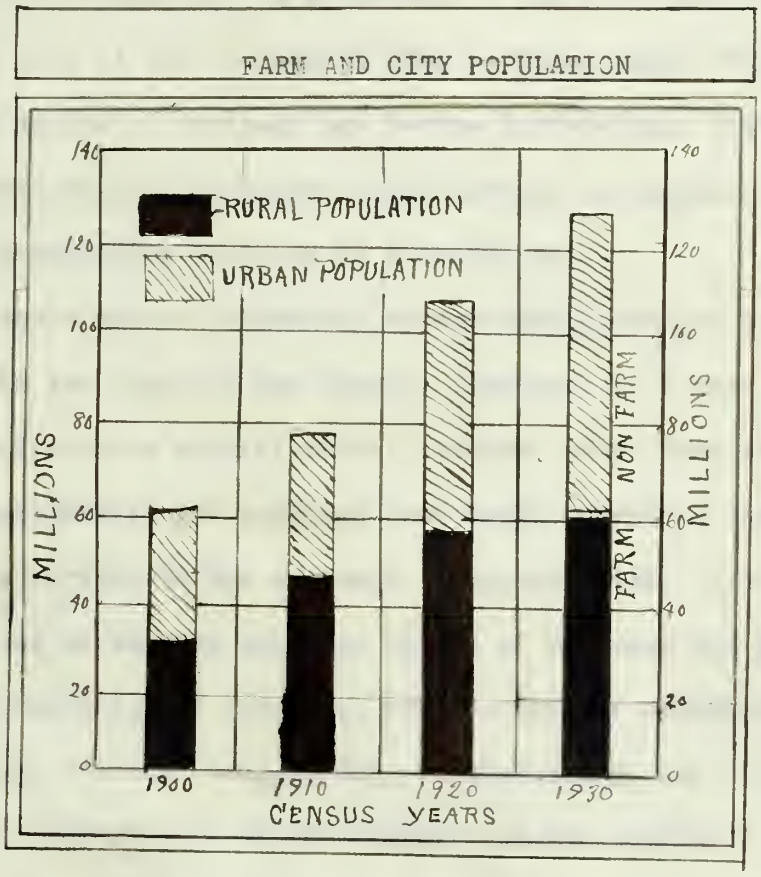
"The principal increases were in highways and waterways, including chiefly expenditures for surfaced highways; recreation; interest on indebtedness; conservation; education, and health and sanitation, in the order named. All these increases represent expansions of govern-

1. "The New York Times", January 8, 1933, Report of President Hoover's Research Committee on Social Trends

mental activities beyond the former limits. The increase in payments on indebtness indicates the degree to which expenditures were met by borrowing.

"The increases in the general functions of government were relatively much smaller than those mentioned. The average increase for all governmental expenses was 317 per cent." 1

The distribution of employment provided by modern business in the United States will be indicated in the following graph and in the statement attached to the graph:



"Not only has the increase of population been concentrated in a few States in recent years, but it has been concentrated largely in the urban centres of these States. Despite high birth rates and low death rates on farms the rural farm population decreased by at least 1,200,000 during 1920-30. The chief reason for the large migration from farm to city was the improvement of farm implements and practices which reduced the number of workers needed.

1. "New York Times" Ibid

> "During 1920 and 1931, however, the trend has been back to the farm, with city jobless seeking places where they might raise some of their family produce. If this tendency continues there is danger of developing a large peasant population on land which is submarginal for business farming but which will permit self-sustaining farming at a low standard of living". 1

This distribution of employment may be further emphasized by the census enumeration which will be found on the next page.

Business As A Social Unit

With business engaging the attention of the great majority or our people to the extent that it has become, as Owen D. Young says, "the major activity in life", the status of business has become increasingly social. Government control of business and government participation in business enforces the necessity of recognizing business as a social unit.

Social ideals adjust themselves to new conditions and social institutions change in the light of new ideals. Business as a mere means of barter and exchange offered no special social problems other than the necessity of providing opportunities for exchange that would result in the mutual interests of the parties to the exchange being satisfied. Even in a very recent past, the barter and exchange period of business had gone no farther than the mere beginning of industry, and the seat of manufacture was in the home. Spinning, weaving, nail-making, candle-making, and even shoemaking were domestic industries in which everybody in the household had a share. Wants were few, and the social problem growing out of the necessity of providing for these wants was, to a large extent, limited to the participation of each individual in the necessary labor and to a fair distribution of the returns from that labor.

Inside of twenty years, however, the influence of machinery made itself felt in business, and waterpower began the industrial age. Steam-power, a

NATIONAL SURVEYS OF OCCUPATIONS

A. The Census Enumeration [1]

OCCUPATION	TOTAL	MALE	FEMALE
Trade	4,242,979	3,575,187	667,792
Bankers, brokers, and money lendere	161,613	156,309	5,304
Bankers and bank officials	82,375	78,149	4,226
Commercial brokers and commission men	27,552	27,358	194
Loan brokers and loan company officials	4,385	4,255	130
Pawnbrokers	1,088	1,066	22
Stockbrokers	29,609	29,233	376
Brokers not specified, and promotors	16,604	16,248	356
Clerks in storos	413,918	243,521	170,397
Commercial travelers	179,320	176,514	2,806
Decorators, drapers, and window dressers	8,853	7,698	1,155
Deliverymen	170,235	170,039	196
Bakeries and laundries	20,888	20,858	30
Stores	149,347	149,181	166
Floorwalkers, foremen, overseers	26,437	22,367	4,070
Floorwalkers and foremen in stores	20,604	16,565	4,039
Foremen (warehouses, stockyards, etc.)	5,833	5,802	31
Inspectors, gaugere, and samplers	13,714	12,683	1,031
Insurance agents and officials	134,978	129,589	5,389
Insurance agents	119,918	114,835	5,083
Officials of insurance companies	15,060	14,754	306
Laborers in coal and lumber yards, warehouses,	125,609	124,713	896
Coal yards	25,192	25,157	35
Elevators	11,312	11,244	68
Lumberyards	43,351	43,279	54
Stockyards	22,888	22,859	29
Warehouses	22,866	22,156	710
Laborers, porters, and helpers in stores	125,007	116,602	8,405
Newsboys	27,961	27,635	326
Proprietors, officials, and managers	34,776	33,715	1,061
Employment office keepers	3,026	2,357	669
Proprietors, etc., elevators	8,858	8,836	22
Proprietors, etc., warehouses	6,353	6,310	43
Other proprietore, officials and managers	16,539	16,212	327
Real estate agents and officials	149,135	139,927	9,208
Retail dealers	1,328,275	1,249,295	78,980
Salesmen and saleswomen	1,177,494	816,352	361,142
Auctioneers	5,048	5,045	3
Demonstrators	4,823	1,639	3,184
Sales agents	41,841	40,207	1,634
Salesmen and saleswomen (stores)	1,125,782	769,461	356,321
Undertakers	24,469	23,342	1,127
Wholesale dealers, importers, and exporters	73,574	72,780	794
Other pursuits (semi-skilled)	67,611	52,106	15,505
Fruit graders and packers	8,074	4,988	3,086
Meat cutters	22,884	22,804	80
Other occupations	16,952	10,711	6,241
Clerical Occupations	3,126,541	1,700,425	1,426,116
Agents, canvassers, and collectors	175,772	159,941	15,831
Agents	130,338	121,428	8,910
Canvassers	14,705	10,514	4,191
Collectors	30,729	27,999	2,730
Bookkeepers, cashiers, and accountants	734,688	375,564	359,124
Clerks (except clerks in stores)	1,487,905	1,015,742	472,163
Shipping clerks	123,684	118,944	4,740
Other clerke	1,347,992	882,068	465,924
Messenger, bundle, and office boys and girls	113,022	98,768	14,254
Bundle and cash boys and girls	6,973	2,506	4,467
Messenger, errand, and office boys and girls	106,049	96,262	9,787
Stenographers and typewriters	615,154	50,410	564,744

1. Adapted from the FOURTEENTH CENSUS OF THE UNITED STATES, 1920. Population--Occupation Statistics, pp. 9-11. Quoted in "Education for Business", Leverett S. Lyon, The University of Chicago Press, Chicago, Illinois, 1931

later development merely intensified the nature of the change that was taking place. Machinery had to be collected and housed under one roof. The factory had to be located near the source of power, and near the market for its product. Industry left the home, and went to town. Those who were dependent on industry grouped their homes in towns, and formed social units with ideals, aspirations, and interests closely identified with the progress of a particular industry.

Today, industry has left the town. The interrelationships between individual industries, the overlapping of functions of manufacturing and marketing, the development of a world-market, and the growing economic necessity of eliminating wasteful competition have welded industry into a unit, with coordinating parts and with intricate organization.

To some extent the unification of industry has unified society as well. The carrying on of the affairs of industry has become Business, and people are united in their carrying-on of business. As a material factor, Business is today a social unit. Costs of production, methods of marketing, control of finance, division of labor, and sharing of profits have been made more or less uniform, either through the necessity of meeting competition or through government regulation and control. Today, the performance of a specific task in business insures a specific reward, and variations in the returns received from industry are not so great as they were in the early days of manufacturing. When work can be found for everyone to do in the social unit of business, society as a unit profits in a ratio somewhat consistent with the employment of individuals that make up society.

The reconciliation of business as a social unit with social interests is still a problem the solution of which depends on perfecting the means by

which individuals may be enabled to exchange goods or services to the end of mutual interests being satisfied quickly, economically, and ethically. When this reconciliation is accomplished, there will be sufficient gainful occupation to provide employment in the manufacture and exchange of want-gratifying goods.

Exchange is after all the essential factor in business, and is the factor that gives social purpose to business. The importance of exchange as a social factor in business is perhaps, best summarized in the following:

> "Exchange is the essential phenomenon of association. This is a truth that appears very commonplace, a mere trifle, and yet at present it is greatly misunderstood by a majority of the people. Some believe that we can have association without exchange; others think that we can have exchange without association. The social bond is created by exchange. If that is absent we have no association."[1]

1. Noviscow, in "American Journal of Sociology", November, 1917

STATUS OF BUSINESS IN THE EARLY NINETEENTH CENTURY

The nineteenth century was a period of almost unbelievable material progress. Perhaps the greatest single factor in this progress was the transformation brought about in industry by the perfecting of inventions, by new discoveries, and by fresh inventions.

In the late seventeenth century, machinery began to assume an important role in manufacturing with the invention of the spinning-machine. As early as 1738, a machine was patented by means of which thread could be spun rapidly and automatically, without being touched by human hands. This first machine was constructed by John Wyatt and Lewis Paul, both of whom claimed credit for the invention. Thirty years later (1768), James Hargreaves set several spindles in one frame, and called his invention the "Spinning Jenny" as a compliment to his wife. About the same time, Arkwright's Water-frame, brought the "spinning-wheel" to further perfection, and used water as a motive power. In 1779, Crompton invented the Spinning-Mule, and a few years later an English Clergyman made Crompton's mule automatic and revolutionized the textile industry.

At the very beginning of the century, Fulton developed the steam engine, invented fifty years before by James Watt, into "Fulton's Dream" and in 1807 sailed his steamboat up the Hudson from New York to Albany. In 1838, the Atlantic was crossed by steamers. In 1830, Stephenson exhibited the first really successful locomotive. In 1836, Morse perfected the telegraph. In 1852, a machine for reaping was offered to farmers, and three years later a plow drawn by steam was in use. During the century matches came into use as replacements of the old steel and flint method of starting a fire. Elias Howe invented the stitching machine, and in 1852 the "singer" patent was

secured by John Wooldredge for a stitching-machine that transformed shoe-making into shoe-manufacturing. In 1844, Samuel Richard patented a "sole-cutter" that cut shoe leather into soles of uniform width and length. A list of inventions in the textile industry, the shoe industry, and in the manufacturing of agricultural implements would make a thesis in itself, but these and other inventions which grew out of them brought about momentous changes that made the eighteenth century outstanding as a century of material progress in industry.

In some respects the inventions of the eighteenth century were not an unmixed blessing. Men had to adjust themselves to the new social and political conditions brought into being by the "machine-age". Industry left the home for the factory; families left the homestead for the tenement in town; towns competed with towns for supremacy as manufacturing centers, and nations competed with nations for the balance of trade that would enable them to dispose of goods manufactured in excess of their own needs. The rapidity with which this adjustment took place is best indicated by the fact that in 1811 the number of spindles in use in the textile mills of New England was 80,000, whereas in 1815 the number was 500,000. 1

In "Modern History" by Hayes and Moon, the following reasonably complete analysis of the Industrial Revolution is given:

> "The Industrial Revolution may be defined as a fundamental change or series of changes in the methods of producing cloth, iron and steel, and other manufactured goods. A brief list of its most striking features will perhaps help the student to understand the narrative that follows:
>
> (1) Machines driven by steam engines or by water power were invented to take the place of human labor in manufacturing cloth and other commodities.
>
> (2) The age of iron and coal was ushered in by a long series of inventions which made it possible to produce and use coal, iron, and steel on a large scale. These materials had been comparatively little use before the eighteenth century.
>
> (3) The invention of the steam locomotive and the steamboat

1. Number quoted from "Forman's "Advanced History of America", p. 235, The Century Company, 1924

revolutionized transportation and commerce.

(4) Millions upon millions of working people who had previously labored in their own homes with hand looms or simple tools, now left their homes to work as wage earners in the factories, mines and mills, which had hitherto been very few but speedily became exceedingly numerous. This change produced almost incredible suffering and hardship at first, and also intense dissatisfaction, among the working classes.

(5) Capitalism gained immensely in power and importance, as the new factories, mines, and railways were owned and controlled by capitalist employers.

(6) The old restrictions imposed upon industry and trade by the guilds and by mercantilist statesmen were swept away to clear the field for free business competition. This, however, was a temporary phase.

(7) Industry and commerce expanded enormously, soon overshadowing agriculture, flooding the market with machine-made goods at low prices, and raising the standard of living.

(8) Population, increasing at an unheard of rate, was more and more concentrated in industrial and commercial cities, until the majority of the population were no longer to be found living in the country, but in overgrown and overcrowded cities." 1

The status of business in the early nineteenth century is rather definitely established in the light of the foregoing analysis as being that of the product of an age of invention, of material progress, and of unscrupulous competition. Industry and trade were the chief factors in business relationships. Invention expanded the power of industry, and brought about unprecedented development of resources into "want-gratifying" goods. Expansion of trade was, to some extent, made possible by the invention of the steamship, but, in a large measure, this expansion was the direct result of an over-production of "want-gratifying" goods that made the fullest possible development of markets for these goods an essential factor. Business had not become a profession, and the importance of Business as a social unit was merely accidental. In General, Business lacked organization on a basis of something more than mere production and marketing of

1. "Modern History", Hayes and Moon, The Macmillan Company, 1924

goods. The scientific aspects of business were somewhat neglected, and the necessity of establishing a fixed "medium of exchange" was neglected.

The beginnings of a professional attitude in business may be traced in chapters of the popular one-volume encyclopedias that in the late eighties were sold from house to house. The chapters headed "Business" or "Commerce" generally began with a few trite statements regarding business and then went into preachments on the necessity of honesty, industry, integrity, and perseverance as factors in the successful conduct of business. That the statements given in these encyclopedias were often far from the actual affairs of business in the eighteenth century does not matter. The important thing is that here, at least, may be found a dawning consciousness of the fact that business should be something more than mere barter and exchange, and that business practices should be regulated by something more important than mere production and marketing.

Toward the close of the century, however, there began to be some attention paid to the scientific management of business. This was most marked in the field of banking. The first important corporations were the banks. They were needed to furnish a means of exchange that would be accepted in all parts of the country. The different states experimented with different forms of bank charters and general laws. New York, a financial center, tried out two ideas. It adpoted a general banking law, or a free banking system, which made the granting of a bank charter automatic. Then, it provided that no bank could issue bank notes unless it deposited with the state treasurer securities partly covering the notes issued. In Boston, there developed a custom of forcing the banks to take inventory at regular intervals by settling their debts to each other. This custom eventually led to the clearing-house, which was established in New York in

1853. The clearing-house idea is basic in our present-day banking system, and the establishment of the New York Clearing House marked a distinct advance in the organization of business as a science.

The Industrial Revolution was to be followed by a period of scientific organization and of social control of business, in which a new invention, the typewriter, was to have a prominent part.

THE INVENTION AND DEVELOPMENT OF THE TYPEWRITER IN BUSINESS

Toward the end of the nineteenth century, the invention of a writing-machine brought into business a development that was to have an essential part in the growth of business, and that was to be vital in the establishment of business, on a scientific and on a professional basis. The importance of the typewriter in business may be seen from the following quotations from Valentine's Manual:

> "A remarkable change, destined to completely revolutionize our ideas of doing business, began about this time to make itself felt. Even then, we had no idea of the magnitude of the impending alteration in business customs of ancient standing that were now at hand. The introduction of the typewriter was now practically an accomplished fact. Beginning with a few banks and railroads its use gradually spread till now it was found in all the larger commercial establishments and was daily extending its field of conquest.
>
> "The new profession, stenography, combined with the typewriter, opened up an enormous field for young women in a direction never even dreamed of before. In the business world there was but little for a girl to choose from. She must become "Jenny, the Beautiful Cloak Model" or snip calico off by the yard as a Shop Girl. Outside of business, teaching school was the only alternative. And that occupation was loathed by every right thinking young woman. Still most of them took it up and concealed their loathing as best they could. The hours were short, it was eminently respectable, a great desideratum in those days, and the pay was good, as pay went in those days.
>
> "Typing was not as high in the social scale at first and in the beginning young men did most of the work. It was soon found, however, that girls could do the task equally well and for half the expense. In those days eight dollars was a fair average but ten dollars was not unheard of. Anything beyond that was considered phenomenal and corresponded with what we know today as the Grand Exalted Order of Vice-Presidents". 1

Although Valentine's Manual is written in a popular style, and although the chief emphasis of the book is thrown on changing styles and customs, the author has in the paragraphs quoted shown a fairly complete grasp of the fact that the introduction of the typewriter constituted an important event in the history of business.

The following outline of the invention and perfecting of the typewriter

1. Valentine's Manual of Old New York", Henry Collins Brown, Valentine's Manual Inc., Hastings-On-Hudson, N. Y., 1926

is quoted from an encyclopedia published in 1895:

"Type-writer, The, stands pre-eminent among Writing-Machines as respects convenience and utility. The principle, briefly stated, is that of a series of keys pivoted to rods similar to the action of a piano-forte, the ends of the rods carrying the characters of the alphabet and all striking on a common center. There is, of course, a self-inking arrangement and several minor improvements have been added in recent yrs., bringing the invention to a high state of perfection. We present a brief sketch of the inventions: It is on record that one Henry Mill obtained a patent in England, Jan. 7, 1814, for such a machine. The record does not describe it, except that it was a device to write in printed characters one letter at a time, one after another. Strange as it may seem, there does not appear to have been another effort made for nearly 130 yrs., for the next recordfound is that of the English patent of 1841 to Alexander Bain and Thomas Wright, entitled, 'A Machine to Print Intelligence at Distant Places'. It was designed simply for what is now called the 'Printing Telegraph'. The next record is that of the U. S. Patent to Charles Thurber, of Worcester, Mass. Thurber's machine was slow and tedious. The next is that of the patent to one Fairbanks, in 1848. It consists of several series or systems of vertical converging rods, the rods of each system adapted to be pushed up vertically, like piston-rods, against a common impinging point. On the upper end of each rod was the desired type. The next is that of the French patent to M. Pierre Faucault, a blind man in Paris Institute for the Blind, in 1849. This machine printed embossed letters to be read by the blind. The machine proved a success. Several of them were made and were sent to and used in the blind institutions in Europe. It was exhibited at the World's Fair in London, in 1851, and commanded much attention. The next is the patent of Oliver T. Eddy, of Baltimore, in 1850. In 1852 there was another patent issued; in 1854 another; in 1856 three others, and one in 1857. After that several other patents were issued in 1858, 1859, 1860, and so on up to 1865 or 1866; but none of these inventions proved to be of much practical value. The writing-machine called the T. was invented at Milwaukee, Wis., in 1867, by C. Latham Sholes, Samuel W. Soule, and Carlos Glidden. Numerous conceptions were made. One device after another was conceived and developed till 25 or 30 experimental instruments were made, each succeeding one a little different from and a little better than the one preceding. They were put into the hands of stenographers--practical persons who were presumed to know better than any one else what would be needed and satisfactory. In this way the invention grew till, at the beginning of 1873, the device was thought complete. The use of the T. has completely revolutionized the copyist's trade, and the useful little instrument is one of the most valuable labor-saving devices of the 19th century." 1

The foregoing quotation from "The People's Cyclopedia" is given in its complete form. It will serve as an outline for the further development of the history of the typewriter and it will identify the references made to the various inventions treated in this part of the thesis.

1. "The People's Cyclopedia of Universal Knowledge", Edited by W. H. DePuy L. L. D., Eaton's & Main's, New York 1895

Although the first practical typewriter was invented in 1873, the story of the typewriter really begins with the story of writing. Typewriting is the most advanced state in the art of writing up to the present time. As man advanced in civilization and enlightenment, his ability to express himself in writing advanced.

The art of shorthand was restricted in its use and in its value, until the invention of the typewriter. Shorthand and typewriting are so closely allied that they have been called and are known today as "the twin arts".

The usefulness of shorthand was limited when the transcribing had to be done in longhand at "pen-writing speed". It would require a staff of pen-writer to transcribe all the dictation of an active executive of today. A second contribution of the typewriter was that it established shorthand as and outstanding factor in the business world. The typewriter and shorthand together emancipated the executive. These two together freed the executive from the drudgery of endless handwriting, and their use has enabled him to devote his best brain power to creative work.

It is worth considering that the typewriter came as a result of the expansion of business. In the days when commerce and business was conducted on a smaller scale, it was not necessary to turn out great volumes of work within a limited time. As commerce, education, and business developed the products of each multiplied so that there came a consciousness of the need of a mans of relieving workers from pen-writing drudgery. The development of the need is the story of the evolution of the typewriter.

The records of the Patent Office in Great Britain reveal that on January 7, 1714 the first patent for a typewriter was granted. We do not hear of the idea of a typewriter again until in 1784 when a machine for embossing printed characters for the blind is said to have been invented.

Although nothing is known of the character of the actual typewriter invented at this time, the association of the invention with the needs of the blind is significant. The embossing machines for the blind that were invented about 1785 were the products of French and German inventors. In 1829 William Austin Burt of Detroit, Machigan was granted the first American patent for a typewriter. The next record of a machine of this time we find was made in 1833 in France. A patent was granted to Xavier Projean of Marseilles by the French government. This machine he described as "a 'Ktypographic' machine or pen.

To spur these inventors of machines for writing, we find other influences at work. The electric telegraph had been invented. There was a need for a "telegraphic printing mechanism". The records of the British Patent Office of 1840 show that Alexander Bain and Thomas Wright made application for a patent for a machine that was to be used in connection with the telegraph. This machine was of no value as a typewriting machine.

In 1843, and again in 1845, Charles Thurber of Worcester, Massachusetts was granted a patent. The first machine, the one patented in 1843, contained a new feature which marked a new step in typewriting machines. In this machine the letter spacing was affected by the longitudinal motion of a platen, a principle which is a feature of all modern machines. Despite the fact that this machine did very good work, no machines were manufactured, as the printing mechanism was too slow for practical use. The model patented by Thurber in 1845 was intended for the use of the blind. It was not really a typewriter, but an instrument designed to perform the motions of the hand in writing.

Pierre Foucault, a teacher in the Paris Institution for the Blind is the first to produce a practical writing-machine for the use of the blind.

This machine, which was patented in France in 1849, printed embossed letters for the blind very successfully. Although this machine never came into general use, it was manufactured for some time and was used in institutions for the blind in different parts of Europe.

Up to 1850 we find that many machines were invented and patented in Europe. After 1850, however, the attempts at inventing a machine were confined to America. In 1850 Oliver T. Eddy of Baltimore took out a patent. This machine, in the inventor's own words was "designed to furnish the means of substituting printed letters and signs for written ones in the transactions of every day business". Eddy's machine was cumbersome and intricate, and although it did good work was not practical as a device to be used in business.

Machines were being invented and patented much more frequently after 1850. In addition to the machine by Eddy a patent was granted to J. B. Fairbanks in 1850 and another patent was granted to J. M. Jones, of Clyde, N. Y. in 1852. Then in 1856 A. Ely Beach of New York invented a machine which was a decided advance over any machine which had as yet appeared. The Beach machine consisted of a series of type levers, arranged in the form of a circular basket, all of which printed at a common center, much in the same manner as a modern typewriter. This machine which was invented for the benefit of the blind had certain limitations. It wrote only on a narrow ribbon of paper, and it was slow in operation.

A machine patented in 1857 by Dr. Samuel W. Francis, a wealthy physician of New York, printed with a speed EXCEEDING that of the pen. The keys of this machine resembled those of a piano, and the types, which were arranged in a circle, printed at a common center. The Francis machine marked the beginning of an effort to combine speed with accuracy in typing.

In 1854 R. S. Thomas of Wilmington, N. C. took out a patent on a machine which he called the "Typograph". The, J. H. Cooper of Philadelphia in 1856 took out a patent on a machine constructed on the "type-wheel principle". This machine was followed by those of Henry Harger in 1858; F. A. Demay of New York in 1863; Benjamin Livermore of Hartland, Vermont, in 1863; Abner Peller of Webster City, Iowa, in 1866; Thomas Hall in 1867; and John Pratt of Centre, Alabama. This machine of Pratt's produced a device called "Pterotype" (winged type).

The principal defect of all these machines was that each model was too slow. These machines all had certain common advantages. They were able to write; they were more legible than hand writing. The great disadvantage was that they were too expensive, too slow, and too cumbersome.

The records of the patent office reval that as the year 1867 was approached the attempts to invent a machine for writing purposes became more numerous. This shows that the NEED of such a machine was impressing itself upon the minds of men.

The machine, which seven years later developed into the first practical typewriter was invented in a little machine shop in Milwaukee in the winter of 1866-67. This machine was the result of the "pet" inventions of three men. Two of these men, Samuel W. Soule and Charistopher Latham Sholes, were printers by trade. They were busy in developing a machine for numbering serially the pages of blank books and the like. The other of the trio was Carlos Glidden, who was the son of an ironmonger in Ohio. Glidden was at work in developing a mechanical "spader" to take the place of a plow.

The outstanding figure in this trio was Christopher Latham Sholes.

Sholes was born in Columbia County, Pennsylvania, on February 14, 1819. Sholes came of pioneer stock. His ancestors who had served in the Revolutionary War came of the oldest New England stock. It is not surprising that he was doing pioneer work but in a new field.

In 1867 Glidden read an article from a London technical journal in which a machine called "Pterotype" invented by John Pratt was described. It is said that when Glidden saw Sholes's machine for numbering serially the pages of blank books he remarked to Sholes, "Why cannot such a machine be made that will write letters and words and not figures only?". The article in the London technical journal revived the idea of Sholes's machine in Glidden's mind. Glidden brought to Sholes the article in which the editor of the journal had pointed out the great benefit of such a machine.

At this time Sholes, assisted Glidden and Soule started to work on their writing machine. These men were dependent upon their own inventiveness. They were all men of an inventive nature. None of these three men were mechanical engineers by profession or mechanics by trade. To overcome this difficulty, they called upon the mechanics at Kleinsteuber's machine shop for the carrying out of their ideas. A mechanic, Matthias Schwalbach by name, who had helped Sholes on his paging machine, was called in to assist in the building of the new machine.

In the autumn of 1867 the first machine was made. The patentfor this machine was taken out in June of the following year. This first machine had many defects but it wrote accurately and RAPIDLY. The fact that it wrote RAPIDLY was the chief thing. This fact alone was a self-advertiser. The inventors sent letters which had been written on this typewriter, to their friends. One of these letters went to James Densmore of Meadvillle, Pennsylvania. This letter awakened Densmore's interest.

Densmore was a practical man of affairs, with imagination, foresight, energy and courage unbounded. Instantly he saw the possibilities of the new invention and shortly afterwards he purchased, by the payment of all expenses already incurred, an interest in the new machine before he had so much as seen it. When Densmore saw the typewriter in the March of the following year, he "then pronounced it good for nothing save to show that the idea was feasible, and pointed out many defects that would need to be remedied before it would be available for practical uses."

Shortly after 1868 Soule dropped out of the enterprise, leaving the work to be carried on by Sholes, Glidden, and Densmore.

It is well that Densmore joined the enterprise. He was the type needed to bring such an invention to completion. He had the spirit and perseverance that was needed for facing the discouraging obstacles that were in the way of the inventors. It is said that it was Densmore's influence, faith, and perseverance that finally brought success to the efforts of his partners. Between the years 1867 and 1873 Densmore urged Sholes on in his inventions. During this time Sholes made some twenty-five or thirty machines. Each of the machines made by Sholes had in the hands of practical users showed some defect and broke down, until, in 1873, he made the machine which was thought to be perfected and sufficiently practical for actual manufacture.

James Oglivie Clephane of Washington, D. C., an official shorthand reporter tried out one model after another which Sholes sent him. Clephane acted as a practice tester of the typewriters. As a shorthand reporter he appreciated what a boon this new machine would be to shorthand reporters.

Another man who acted in practically the same capacity as Clephane, a practical tester, was Mr. Charles X. Weller. Weller knew Sholes personally. Weller tells how one day in July, 1867 Sholes came to the office

where he was working in Milwaukee as a telegraph operator and shorthand student, to secure a sheet of carbon paper. During this call, Sholes told Weller that he would show him something interesting if he came to see him.

When Weller called on Sholes he saw a crude experimental affair rigged up with a single key, like a telegraph transmitter, which printed through the carbon paper a single letter wwwww. This machine, however printed this letter in sequence as fast as the key could be operated. Weller was surprised at "the facility with which this one letter of the alphebet could be printed by the manipulation of the key." Sholes then explained that he was developing "this idea into a machine which would print in similar manner any and all letters of the alphabet."

Shortly after he saw Sholes's machine, Weller moved to St. Louis where he became a reporter. When he was leaving, Sholes promised to send him for practical testing, the first completed model. This machine reached Weller in January, 1868. Before the first completed machine was sent to Weller, Sholes named it a"TYPEWRITER".

In the years that followed, Weller in connection with his work as a shorthand reporter, tested out the machines that Sholes sent him. Weller and Clephens, late in the sixties, demonstrated the utility of the typewriter in connection with shorthand reporting. E. Payson Porter, a telegrapher, demonstrated the utility of the typewriter in the field of telegraphy. Porter first saw one of Sholes's machines in 1868. At this time Porter was employed as an operater in the Chicago Office of the Western Union Telegraph Company. Sholes had been surprised and delighted at the rapidity with which Weller had manipulated the keys of the typewriter when he had first seen it. Sholes in his enthusiam had promised Porter the finest machine he could make, upon con-

dition that he could receive on the typewriter as fast as any telegrapher could send a message.

In 1869 a demonstration by Porter made evident the superiorty of typewriting as opposed to the taking of telegraphic messages in handwriting. Speed, the essential factor in the demonstration, has come to be more and more the factor that determines the use of the typewriter in business. Once it became evident that the typewriter could be made to accommodate itself to the speed with which the telegraphic messages were sent and received, the typewriter became as firmly associated and identified with telegraphy as it was with shorthand.

Sholes and Glidden invented twenty-five to thirty machines between 1867 and 1873. A few of these are still in existence, and the first and the last machines of the inventor's are still preserved.

Sholes used his typewriting machine for writing his letters from the day when he completed his first model. This fact has given us the best possible evidence of the quality of the writing done by these early modles. All of Sholes models were restricted to typing in capital letters. One of Sholes's typewritten letters which has been preserved reveals that Sholes feared that his machine might be only a "passing novelty!" One paragraph reads as follows:

> "We shall be in a position to furnish good machines provided any person is in a position to want them after they are furnished. You know that my apprehension is that the thing may take for a while, and for a while there may be an active demand for them, but that, like any other novelty, it will have its brief day and be thrown aside." 1

Sholes and Densmore decided in 1873 to bring their machine to the house of E. Remington & Sons at Ilion. Late in the month of February, 1873, Densmore accompanied by George W. N. Yose, with whom Densmore had been associated in the oil transportation business in Pennsylvania, came to the Remington

1. Quoted in "The Story of the Typewriter", Herkimer County Historical Society, Herkimer, N. Y., 1929

Works at Ilion with the model of the typewriter. Densmore it appears brought Yost along because he wanted Yost's assistance to persuade the Remington people into accepting the typewriter. Yost was an expert salesman, and his efforts did much to convince Remington of the advantageous possibilities of typewriter manufacturing.

On that same day a tentative agreement was entered into. This agreement later developed into the contract for the manufacture of typewriters. This contract was entered into on March 1, 1873.

Although the original contract was for manufacture only, the Remington company eventually acquired complete ownership. At the time that the ownership of the typewriter passed to the Remington Company, Densmore accepted a royalty which made him rich. He had not been successful as a selling agent which meant that he made little money in this role. It seems that Sholes had sold out his royalty rights to Densmore for $12,000. This seemed like a large sum in those days, but it would now be considered pitifully small remuneration for the lifetime of effort that Sholes spent in inventing and perfecting his typewriter.

Now that the Remington firm was to manufacture the new machine, they brought it into their factory where there were skillful workmen available. In the machine invented by Sholes and Glidden, the Remington people found one with only the basic ideas. It was the task of the Remington Company to make this machine practical so that it could be produced and sold in large quantities.

At the Remington factory were such "mechanical master minds" as William K. Jenne, Jefferson M. Clough, who afterwards became superintendent of the factory of the Winchester Arms Company, Byron A. Brooks, a professor of higher mathematics. Of this group the most notable was William K. Jenne.

Jenne transformed the crude machine of 1873 into the first practical commercial typewriter.

The Remington Company began the manufacture of the new machine in September, 1873. The first machines were completed and ready for sale in the early part of the following year. This machine is now known as the "Model I Remington".

The "Model I Remington" had many interesting features. One outstanding thing about it was that it looked like a sewing machine, and the carriage return was operated by a foot treadle. Another feature was the metal case which completely enclosed the machine. This machine had one very bad limitation. It had no shift key mechanism and it wrote capital letters only. Another point of interest on the "Model I Remington" was the fact that it had the "universal keyboard" in very nearly its present form.

There is some question as to who invented the universal keyboard. By this phrase "universal keyboard" is meant the present universal arrangement of the letters on the typewriter keys. The answer to this question is that the universal keyboard with some minor variations has been standard since the invention of the earliest writing machines.

There are those who believe that the universal keyboard was the invention of Alexander Davidson, a mechanic and surveyor of West Virginia. Davidson made a special study of the subject of scientific keyboard arrangement in the late seventies, but there is no evidence that Davidson had ever seen a typewriter before the yar 1875. The "universal" form for the keyboard had already been made at this time.

It is positively known that Densmore and Sholes, laboring together, worked out the universal arrangement of the letter keys. How they happened to arrive at this arrangement, however, is a point on which there has

always been much speculation. Sholes and Densmore were both printers by trade. The usual alphabetic arrangement of letters meant nothing to them. The arrangement of the universal keyboard, however, is nothing like the arrangement of the printer's case. Mechanical difficulties were responsible, perhaps more than anything else for the development of the "universal keyboard".

The tendency of the type bars on all the Sholes mdoels was to collide and stick fast at the printing point, and it would have been natural for Sholes to resort to any arrangement of the letters which would tend to diminish this trouble. The "universal keyboard" has been so closely associated with the invention and development of the typewriter that although there has always been agitation for keyboard reform, this agitation has come to nothing. From the point of view of the manufacturer, the possibility of a new keyboard being invented does not present many formidable difficulties. Special keyboards are now being manufactured, and thousands of them are in use. The important elemnt in the situation is the fact that typists have accustomed themselves to the "universal keyboard" and would be reluctant in accepting what would be regarded as a radical innovation.

In the Smithsonian collection with the first typewriter is a copy of the first typewriter catalogue. Some interesting points about this old catalogue are:

1. The title announces the typewriter as "A Machine to Supersede the Pen".
2. The catalogue lists Legibility, Rapidity, Ease, Convenience, and Economy as the advantages to be secured through the use of the typewriter.
3. Among prospective users of the typewriter the catalogue includes the reporters, lawyers, editors, authors, and clergymen.
4. At the end of the catalogue the following significant statement appears: "The merchant, the banker, ALL men of business can perform the labor of letter writing with much saving of valuable time."

The creation of a market and the securing of favor from the public was the next step to be taken in the progress of the typewriter. The story of how this was done is too long to be included in this thesis, but a few outstanding incidents will serve to make the story clear.

Mark Twain has a large part in the story of how the public reacted to the typewriter. One of his letters was written as a testimonial, and is printed in the first typewriter catalogue. The text of the letter is:

"Hartford, May 18, 1875

Gentlemen:

Please do not use my name in any way. Please do not even divulge the fact that I own a machine. I have entirely stopped using the Type-Writer, for the reason that I never could write a letter with it to anybody without receiving a request by return mail that I would not only describe the machine but state what progress I had made in the use of it, etc., etc. I don't like to write letters, and so I don't want people to know that I own this curiosity breeding little joker.

Yours truly,

Saml. L. Clemens." 1

The following quoted material is taken from "The Rowe Budget", April, 1930, and is there quoted from Mark Twain's tale "The First Writing-Machine" published by Harper Brothers. The excerpts show in Mark Twain's inimitable style the advantages and disadvantages met with by users of the first typewriting machines:

"I saw a type-machine for the first time in--what year? I suppose it was 1873 because Nasby was with me at the time and it was in Boston. We saw the machine through a window and went in to look at it. The salesman explained it to us, showed us samples of its work, and said it could do 57 words a minute--a statement which we frankly confessed we did not believe. So he put his type-girl to work and we timed her by the watch. She actually did the 57 words in 60 seconds. We were partly convinced, but said it probably couldn't happen again. But it did. We timed the girl over and over again--with the same result always: she won out. She did her work on narrow slips of paper and we pocketed them, as fast as she turned them out, to show as curiosities. The price of the machine was $125. I bought one and we went away very much excited."

1. Given in "The Story of the Typewriter", Herkimer County Historical Society, Herkimer, N. Y., 1923

"At the hotel we got out our slips and were a little disappointed to find that they all contained the same words. The girl had economized time and labor by using a formula which she knew by heart. However, I argued--safely enough--that the first type-girl must naturally take rank with the first billiard-player; neither of them could be expected to get out of the game any more than a thired or a half of what was in it. If the machine survived--IF it survived--experts would come to the front, by and by, who would double this girl's output without a doubt. They would do 100 words a minute--my talking speed on the platform. That score has long ago been beaten.

"At home I played with the toy, repeating and repeating and repeating, 'The Boy Stood on the Burning Deck,' until I could turn out that boy's adventure at the rate of 12 words a minute; then I resumed the pen, for business, and only worked the machine to astonish inquiring visitors. They carried off many reams of the boy and his burning deck.

"That early machine was full of caprices, full of defects--devilish ones. It had as many immoralities as the machines of today have virtues. After a yar or two, I found that it was degrading my character; so I thought I would give it to Howells. He was reluctant, for he was suspicious of novelties nd unfriendly towards them and he remains so to this day. But I persuaded him. He had great confidence in me and I got him to believe things about the machine that I did not believe myself. He took it home to Boston and my morals began to improve, but his have never recovered."

A story which gives some idea of the regard of the public for the typewriter is told about a Kentucky mountaineer who returned his first typewritten letter to the man who wrote it, with the words indignantly scribbled on the margin, "You don't need to print no letters for me. I kin read writin." This particular yarn cannot be verified, but there were plenty of similar cases. A Texas insurance man and banker by the name of J. P. Johns has given the Remington firm a transcript from memory of a reply from one of his agents to a typewritten letter:

"Dear Sir:

I received your communication and will act accordingly.

There is a matter I would like to speak to you about. I realize, Mr. Johns, that I do not possess the education which you have. However, until your last letter I have always been able to read the writing.

I do not think it was necessary the, nor will be in the future, to have your letters to me taken to the printers, and set up like a hand bill. I will be able to read your writing and am deeply chagrined to think you thought such a course necessary."

Another story along this vein was told by William K. Jenne himself. On one occasion he planned to visit New York with his family and sent a typewritten letter, makinga reservation, to one of the hotels. When he and his family reached the hotel, nothing was known of his application. Finally he asked them particularly about his letter and described the way it was written. The clerk then recalled such a communication, but he supposed it was a printed circular and had thrown it away.

The typewriter aroused peoples' curiosity. The curious, however, were not convinced that the new machine was practical. They objected to the fact that it wrote capitals only, and they could not assimilate the idea of paying $125 for a writing machine, when pens could be bought for a penny. Public acceptance of the typewriter had to await the gradual development of public confidence in the practical usefulness of the typewriter, and the beginning of pupular understanding of typewriting technique.

One of the most difficult obstacles that faced the typewriter manufacturers was the task of furnishing the operator. Out of this necessity of supplying the operator came the free employment departments for stenographers and typists. This became another distinctive feature of the typewriter business.

The first typewriter which wrote both capitals and small letters appeared in 1878. It was the Model 2 Remington. This machine was the product of several master minds. Jenne was one of the master minds that was in a large measure responsible for this machine. The problem of printing both capitals and small letters, with the standard keyboard ar-

rangement, was solved by the combination of the cylinder shifting device, invented by Lucien S. Crandell, with typebars carrying two types, a capital and a small face of the same letter, invented by Byron A. Brooks. The shift-key machine proved to be a long step in advance, and the typewriter soon began to gain in popular favor.

The great problem of the selling agencies for the typewriting companies was to find a profitable market for the machine. Densmore and Yost were the first selling agents, followed by Densmore, Yost & Company, General Agents, and finally by Locke, Yost & Bates. Further changes were made which eliminted Yost entirely, and in July, 1878, the selling agency was entrusted to the well-known house of Fairbanks & Company, the celebrated scale makers. Fairbanks & Company appointed C. W. Seamans as manager of typewriter sales. Seamans worked with Fairbanks & Company for three years. In the year 1881, when E. Remington & Sons decided to take over the selling agency, Seamans was appointed as the sales head of their typewriter business. This change brought progress, but the business was still very small if we compare it with present-day standards. Twelve hundred machines were sold in 1881. Seamans, who was not satisfied with these results, entered into negotiations with Mr. Henry H. Benedict and Mr. W. O. Wyckoff of Ithaca, N. Y. These negiotiations resulted in the organization of the firm of Wyckoff, Seamans & Benedict on August 1, 1882. In the new contract the Remington Company conceded the selling agency for the whole world to them. This contract marked the turning point in the history of the writing machine.

The introduction of the typewriter in Europe was many times more difficult than it was in America. Europe presented even greater obstacles than America did. In Europe the typewriter made progress against the more

deliberate habits of the people and against the conservatism of Europeans who still regarded the typewriter as an American novelty.

Soon after the firm of Wyckoff, Seamans & Benedict took up the selling, the systematic invasion of Europe for a market began. It was chiefly the efforts of Mr. Benedict that the foundations of the business in Europe was laid. Up to this time E. Remington & Sons had sought a market only in Great Britain. The first British catalogue published by the E. Remington & Sons contains an impressive list of press notices in British journals, published at different times in 1876, also a list of patrons which includes the King of the Netherlands, the Duke of Bedford, the Marquis of Salisbury, Earl Granville and other notables of the period. There is testimonial evidence in this old catalogue that machines were sold in England as early as the year 1874, and similar early efforts are traceable in other countries. In 1886 Wyckoff, Seamans & Benedict opened an office in London. By 1890 the typewriter had the British market, was developed and the typewriter came into common use in England. The successful introduction of the machine in most of the Continental European countries belongs to the same period. Offices were opened in Paris in 1884, and direct representation was established in Belgium in 1888, Italy in 1889, Holland in 1890, Denmark in 1893, and Greece in 1896. The German market was entered in 1883, and the Russian, with a special machine equipped to write the Russian characters, in 1885.

From the earliest years of the typewriter, in Europe as well as in America, the machine was used by celebrities. Some of the European celebrities who used typewriters are Lloyd George, when he was an obscure and struggling attorney in Wales, and Count Tolstoi.

The establishment of the typewriter in Europe took one particular angle that was entirely different from anything in America. In America the typewriter companies and commercial schools, have developed as distinct and separate institutions. This is probably because the idea of our modern commercial school system existed in a few of the so-called "business colleges" before the typewriter came.

In Europe it was impossible to get operators in these early days. The typewriting companies soon realized that the problem could be solved only by founding schools of shorthand and typewriting. These schools would have to be owned and operated by the company itself.

The Remington Company organized and conducted schools for the training of typists in England, on the Continent, in Australia, South Africa, and in the Asiatic countries. The Remington schools in various cities throughout India have been for years the main source of supply of the typists who have gone into the employ of the Indian government.

The material for the foregoing history of the typewriter is an adaptation of material furnished on request by the Remington Company. In adapting the material to its present use the historical continuity has not been disturbed, but the interpretations and summaries are frequently those of this thesis rather than those of the Remington Company.

In conclusion, the following may be noted as outstanding points in the history and development of the typewriter:

1. The invention of the typewriter continued the material progress in manufacturing and industry along the lines followed by the inventions and discoveries of the eighteenth century.

2. The invention of the typewriter made possible a development with the provision of relief for the blind.

3. The invention of the typewriter made possible a development of the field of telegraphy.

4. The necessity of providing markets for the typewriter enforced the need of education in the technique and operation of the new machine.

5. The typewriter manufacturers influenced changes in curriculums of business schools in America and instituted their own schools abroad.

CHANGED VOCATIONAL OUTLETS

The growing use of the typewriter made an early impression on business and opened new employments for many people. Two of the most important results of the changed vocational outlets made possible by the use of the typewriter in business were the elimination of the correspondence clerk, and the increased employment of women.

The following quotations from Valentine's Manual will indicate to some extent the nature of the influence of the typewriter on business:

> "Like all innovations it (the typewriter) had its discouraging moments and no little missionary work was required to prove that s stenographer and a machine, were an improvement over the accomplished employee who rejoiced in the title 'Correspondence Clerk'. There gentlemen were in a class by themselves. They claimed to speak several languages but the only extra one I ever heard them use was the profane. In the larger offices they were not supposed to concern themselves with any other duties than writing letters".1

Another, and a somewhat amusing account of the emphasis placed on penmanship and the vocational aspects of the subject is given in Valentine's Manual as follows:

> "Another elegant accomploshment of the Eighties that ranked with the high arts, was penmanship. A copper-plate hand was highly valued in bookkeeping, correspondence, and other commercial manuscripts before the days of the universal typewriter. I do not know whether the schools emphasize this feature of education today, but it was then an important element. Many a perfect dub held a fine clerical position simply because he wrote a good hand. Small boys with grimy, baseball fingers bent painfully over a copybook and scratched laboriously in endless repetition the time-honored admonitions 'No wealth without labor', 'There is no royal road to learning', 'Knowledge is power', and other wholesome if ambiguous warnings, only in the end to forsake the clerkship at nine hundred a year and become a big league at ten thousand to the great disgust of the family.
>
> "I suppose the skill acquired at these tasks accounted for the large number of professional itinerant penmen whose little tables were occasionally encountered in the streets and parks. Here one could have a package of visiting cards written by hand for a dime. The artist's signboard was usually a bird executed in a series of ornate flourishes in pen and ink, bearing in its bill a ribbon with the artist's name and the scale of prices. Many penmen were employed in

1. "Valentine's Manual of Old New York", Henry Collins Brown, Valentine's Manual Inc., Hastings-On-Hudson, N. Y., 1927

writing legal documents, and not a few found a good living in engrossing resolutions and other eulogistic documents for lodges, associations, etc."1

With the advent of the typewriter the professional penman whether in the role of a correspondence clerk or a copyist, began to disappear from business. His place was taken by young men eager to gain employment because of their mastery of the new machine. At first typewriting was a man's job, but as the fact that women could type became more evident, the possibilities for employment of women increased with the increasing popularity of the typewriter.

Before the invention of the typewriter, women were employed in business, but their employment was limited to the women who were forced into gainful employment as a matter of necessity. Working conditions were not attractive for women, pay was low, hours were long, and the woman-worker was generally disregarded. As a rule, the factories wanted unskilled labor. Machines could be tended by women and children, and these women and children were employed in the mills and even in the mines of England. Children of paupers were forced to work, and factories were filled with women who toiled as slaves of industry. An investigation of labor conditions in England was made in 1842, and among the results of the investigation was the publication by the Royal Commission of pictures showing a woman, on all fours, dragging a coal-car through the mine-shaft. The English investigation improved conditions somewhat, but still industry offered no great attraction to women forced to seek employment.

By 1870, however, in America at least, women began to find employment in business on a higher level than that of the servitude exacted them thirty or forty years earlier. Women are said to have been employed in Washington

as copyists in 1870. In January 1871, a statement appeared in the "Revolution" that many Washington lawyers would be willing to give work to competent women copying clerks.

A fairly complete outline of the invasion of business by women is given in the following:

> "Though women were said to be sometimes employed to write from dictation at a salary of about $600 a year, their first experience as stenographers appears to have been in the transcribing of notes taken by men. Thus in 1869 the stenographer of the surrogate's court, New York, wrote a letter to the "Revolution" calling attention to 'phonographic reporting' as an industrial field open to women' in which the pay is remunerative, but into which they do not seem much inclined to enter'. For several months past, he said, he had had all his shorthand notes taken in court transcribed by a girl, to whom he had paid the same wages as to a man, and who had proved very efficient.
>
> "As long, indeed, as the use of stenographers was confined to court work and to the reporting of long public speeches--work which is still generally done by men--women gained little foothold in business. As industries, however, have expanded and commerce has grown, the tendency toward concentration and the adoption of labor saving devices in trade as well as in manufacture have created a great demand for stenographers, typewriters, clerks, copyists for ordinary business work--a demand largely filled by girls. This demand and supply have arisen practically within a generation, and a new and comparatively promising field of employment has been opened to women". 1

The entent to which the invention of the typewriter made possible the invasion of the business world by women may be glimpsed in the following:

> "One of the marvels of this age of miracles is the rise of the stenographer. We speak now in the feminine gender, and refer to that vast army of graceful creatures who today carry the routine of business on their slender, efficient shoulders. They are a remarkable product of a remarkable age, a rare synthesis of grace and efficiency, such as nature never dreamed of concocting before the invention of the typewriter.
>
> "One of our older authorities on the growth of stenography is wont to tell of the days, barely more than a generation ago, when the then lordly male could walk from the Battery to Fourteenth Street, in New York, during the noon hour and see not a skirt nor a bobbed head in the vicinity. The business offices then disgorging their working population for the midday meal poured forth a drab, masculine stream, untinged by feminine charm or color.
>
> "Now, needless to point out, the once dominent male must fight his way

1. From the Report of Federal Commissioner of Labor, 1910, quoted in "Commercial Work and Training for Girls", Eaton and Stevens, The MacMillian Company, 1915

through a horde of strange fluffy creatures who elbow him out of his favorite restaurants and push him off the sidewalks of the crowded business sections of the city.

"Within a single generation the stenographic force of the country has grown into one of the major industries of the world. In mere numbers it has multiplied with a rapidity to stagger the imagination. But its growth and influence has not been confined to the weight of numbers alone. Business itself has followed closely upon the rise of the stenographer; indeed, modern business owes much of its tremendous advance to the girlish figure who today sits behind the typewriter, the telephone, and the adding machine. She who "mans these three powerful instruments of commerce has helped to mould modern business and will continue to influence the tread of a still greater commercial development.

"Imagine if you can a business office without the business girl. Who would operate the typewriter? Who would answer the telephone? The first and most indispensable employee of every business venture, therefore, is the stenographer who can write the letters and 'tend' the telephone. As the business grows, more stenographers must operate more typewriters and 'tend' more telephones; until as the business swells into a nation-wide institution, with a great central office, it becomes, so far as routine workings are concerned a tremendous hive of stenographers, secretaries, and telephone 'tenders'. When on some gala occasion the force is enticed out on the huge lawn fronting the home office and a panoramic picture is taken to show to the world the magnitude of the business, the resulting photograph looks for all the world like the student body of a girls' school". True on the ends of the picture and toward the center, a bald head or two may shine disconcertingly into the lens of the camera, to remind us that mere man still manages and guides this vast feminized machine; but the camera doesn't lie--the motive force as well as the charm of the picture is of the other sex." 1

That the invasion of business by women has been complete and will be permanent is indicated in the following quotation:

"It is a remarkable fact that stenographers and typists receive employment soon after they complete their commercial education. Among the army of the unemployed at any given time, I dare say that there will be found a relatively small percentage of stenographers. If we were to qualify the statement and say "competent stenographers," the percentage would be much smaller; in fact, it would probably be at a minium.

"This condition is due to a number of interest circumstances. In the first place, the so-called "turn-over" in the stenographic profession is greater than in probably any other of the recognized fields of employment. Owing to the preponderance of young girls who enter the profession, there is bound to be a constant defection from the ranks when these young ladies inevitably turn their thoughts to homemaking, and quit work in the business office.

1. "Editorial Views", "Miss America--Stenographer", The Gregg Writer, May, 1931, The Gregg Publishing Company

"Another factor lies in the inherent opportunity that goes with the ability to write shorthand and operate a typewriter, an enlarged field of endeavor, but which at the same time serves to deplete the stenographic ranks. The advancing novitiate as he steps up the ladder leaves a vacant place below, to be filled by the tyro fresh from the shorthand class. This is no small item in the operation of the law of supply and demand, for there have been thousands in the past, and there will be other thousands in the future, who use the stenographic profession only as a stepping-stone to something greater. But perhaps the most importand factor in the situation is the absolute indispensability of the stenographer to modern business. Machines and labor-saving devices have come to raise havoc in many of the older trades and skilled professions. Today many an artisan has had to turn mechanic and spend his days tending an automaton, in order to exist. His art and the long years he spent in acquiring his skill have gone for naught before the rentless advance of an era in which the machine is dominant. But not so with the shorthand writer. The coming of the typewriter, rather than detracting from the skill of the shorthand writer, served only to enhance it; indeed, the combination of the two--shorthand and the writing--created the modern amanuensis, or stenographer.

"When the dictating machine or the phongraph, was perfected, an attempt was made to displace the stenographer by that remarkable invention, but it has failed, as any such attempt must fail. Stenography is essentially a personel enterprise. It is a "hand-made" profession. It is true that there is much that is mechanical about it, and it doesn't always require the exercise of brain power, but it does presuppose a thinking apparatus of some sort, and no machine has yet been devised that will think. The humblest stenographer, writing form letters from stereotyped dictation, is not without judgment and discretion in the performance of her duties, for how else would she read her notes, center her letters or--and it is no mean item in our language--how else could she spell out the words sensibly." 1

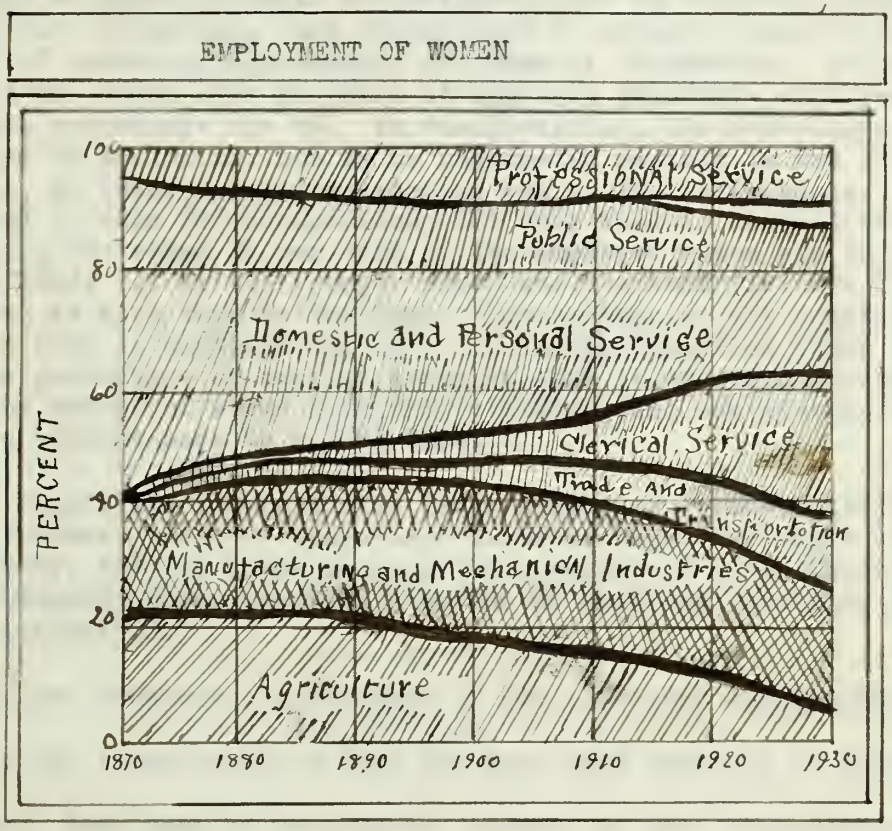
In a chapter "The Occupations of the American Nation", Hugo Munsterberg in his book "Vocation and Learning" the following significant interpretation of the census figures of 1900:

"A smaller number of women than in the field of teaching, but still a larger percentage compared with men, is working at stenography and typewriting: 77% of women as against 23% of men. And the relative importance of this occupation for women is steadily growing. The more modern life becomes adjusted to the typewriting machine and to the quick pen of the shorthand writer, the more the high qualities of the women for this work, which demands general education, technical training, and discretion, become evident. To be sure, the need for this occupation has not so far spread equally over the country. The census shows that of the 85,000 female stenographers and typewrters, more than 16,000 are engaged in the State of New York, 11,000 in the State of Illinois, and more than 6,000 in Pennsylvania, Massachusetts, and Ohio, while many States have hardly

1. "Editorial Views", "Supply and Demand", The Gregg Writer, December, 1930, The Gregg Publishing Company

developed this vocation. Ilinois has only the sixteenth part of the population but the eighth part of the typewriters in the entire country. Sixty-three per cent of this class are below twenty-four years of age, and 31% between twenty-five and thirty-four, only 6% being older." 1

The following graph and the quoted interpretation gives an accurate picture of the increased opportunities for employment made possible for women in business since 1870, or approximately since the invention of the typewriter:



"This chart shows the changing relative importance of the major occupation groups for all gainfully employed women 16 years and over. While the actual number in each group increased, the data seem to show a continuous shift in women's employment away from the older agricultural and industrial pursuits toward office, store and professional work, with domestic and personal service somewhat more stable.

"In 1870 agriculture claimed 21 per cent of the employed women, but by 1930 it claimed only 7 per cent. In 1870, 20 per cent of all working women were engaged in manufacturing, but the proportion fell to 18 per cent in 1930. The domestic and personal service group shows a drop from

1. "Vocation and Learning ", Hugo Munsterberg, Harvard University, Peoples University, University City, St. Louis, Mo., 1912

53 per cent in 1870 to 28 per cent in 1920 and then a slight rise to 33 per cent in 1930. The remaining occupations show relative increases. Among the professions, women constitute 78 per cent of all teachers and 98 per cent of all trained nurses." 1

The following reveiw of the findings of Ex-president Hoover's Research Committee on Social Trends was printed in the New York Times, January 2, 1931.

"As production of economic goods was transferred from the home to outside industry, men's work went from the homestead to factories and stores. Women did not work outside the home to the same extent, partly no doubt because children, cooking and housekeeping still occupied them at hime, although a number of their occupations, such as spinning, weaving, soap making and laundering, were transferred to outside institutions. The number of women working outside the home is increasing. In 1900, 21 per cent of all women over 16 years of age were gainfully employed, while in 1930 the percentage was 25. In manufacturing, the percentage of women employed is declining, but is is increasing rapidly in the clerical occupations, in trade and transportation and in the professions. Women are employed in some 527 occupations; but they tend to concentrate in a few callings, for about 35 per cent of the employed women are in 24 different occupations. It is the younger women and the unmarried who form the bulk of women at work outside the home. One in four of all females 16 years old and over is employed and only one in eight married women is employed, but the percentage of married women at work is increasing much more rapidly than the number of women gainfully occupied, and the average age of women who are breadwinners is rising slowly.

"Women constitute a potentially large supply of workers, their bargaining power is weak, there are some uncertainties regarding their continuity of employment, and for these reasons their wages are low. Their entrance into industry, then, presents a number of problems involving legislation and organization."

Perhaps the greatest significance of the increased employment of women in business is the transformation that has been made possible in business as a social unit. Some hint of the lighter aspects of this transformation is contained in the following:

"The presence of women in the office today has certainly improved the entire personnel. Only those who can recall the old time office; its wash stand in the corner coated with caked dust, and the dirty towel that hung for weeks without change; the spittoons, and litter on the floor, can appreciate the difference.

"Such then were the somewhat dubious surroundings which greeted the young stenog in the early Eighties. As she increased in numbers she unconsciously brought with her a more refined atmosphere and there is no question in mind but that the entrance of women into business has been a

1. Graph and interpretation based upon material contained in Ex-president Hoover's report of the work of the President's Committee on Social Trends. Puslibhed in the New York Times, January 8, 1933.

wonderful thing for this savage old institution. If cleanliness is next to godliness she imparted a spiritual aspect to business by merely causing the old woolen towel to disappear and reforming the wash stand so that it no longer invited the attention of the Board of Health". 1

Beginning with the changes described in the foregoing quotation the influence of women on business has been a potent factor in social betterment. How much of this is due to the mere presence of women in business, and how much is due to the fact that the invention of the typewriter provided for the economic independence of women, and how much is due to legislation made necessary by the presence of women in industry can not be exactly determined.

It is significant, however, that after the invention of the typewriter women began to have a real part in business, and business began to show marked social progress. Although laws affecting the employment of women were passed in 1840, these laws were very generally disregarded until about 1870. In 1877, Massachusetts enacted a code of factory legislation.

Since then more than half the states have done the same. In many of the states the working day of women is restricted, usually to ten hours. Laws governing the safety and sanitation of factories now exist in more than half the states. In all, or nearly all, of these legal controls of the social factor in business, the initiation and progress of the reform was not vefy marked until after the invention of the typewriter and the consequent invasion of business by women.

Men were not altogether aloof from the sympathy with social reform that made the increased employment of women possible under fit conditions. In fact, under the influence of women in business the latent idealism of men transferred itself to business and made reforms possible.

No more fitting summary of this part of "The Typewriter in Business" can be given than in the words of the inventor, Christopher Latham Sholes:

1. "Valentine's Manual of Old New York", Henry Collins Brown, Valentine's Manual Inc., Hastings-On-Hudson, N. Y., 1927.

"I feel that I have done something for the women, who have always had to work so hard. This will enable them more easily to earn a living.

"Whatever I may have felt in the early days of the typewriter, it is obviously a blessing to mankind, and especially to womankind. I builded wiser than I knew, and the world has the benefit of it."

THE PRESENT USE OF THE TYPEWRITER IN BUSINESS

Although the large manufacturers of typewriters were very generous in providing material on the history and development of the typewriter, they were not willing to state the exact number of typewriters they had manufactured and sold in any given period of time. One executive, when interviewed, said that such information was confidential and could not be given out except with the special permission of the officers of his company. Consequently, an analysis of the present use of the typewriter in business will have to depend on related statistics rather than on actual records of sales.

Some idea of the number of typewriters used in business may be gleaned from the following:

> "The U. S. Department of Commerce publishes a detailed list of exports of office appliances, and it is interesting to learn that during the year of 1929 there was an increase of 11 per cent over the year before, with exports totaling $53,754,331 in 1929 as against $48,469,205 in 1928. Comparing the figures with those of 1926, the increase in 1929 is 48 per cent. Typewriters sold in the principal markets of the world went to $22,843,644 this year, an increase of more than a million dollars over the previous year. And so the progress of office equipment goes on!" 1

The figures quoted in the above excerpt apply to "Office Appliances", but it may readily be assumed that these "appliances included a fair share of typewriters.

A recent article "Does the Typewriter Stimulate Learning In The Elementary Schools?" describes an experiment "involving over fourteen thousand school children and more than four hundred teachers in fifty schools in a dozen American cities" which "indicates that the typewriter when used as a regular instrumentality in the classroom, makes definite contributions to educational effectiveness in the kindergarden and first six grades."2

1. "Here and There in the Office Equipment Field", The Gregg Writer, June, 1930, p. 456
2. "Does the Typewriter Stimulate Learning in the Elementary Classroom?" Reprint of an article in School Management, 1933, Dr. Ben. D. Wood, Director, Bureau of Educational Research, Columbia College, Columbia University

Of Doctor Wood's research mention will be made in another part of this thesis, but the description of the method used in research, and given in the foregoing quotation, implies an extended use of typewriters in education, even in the elementary grades. It is especially significant that the experiment required that the typewriter be used as a "regular instrumentality in the classroom".

An unsuspected source of information was uncovered in the following:

"Every modern office device which can possibly add to the celerity and rapidity of management of a great personnel and material organization is availed of in the Navy, from the most modern typewriter to all the standard office mechanical and electro-mechanical equipment known. Several important civil manufacturers of office equipment which adds much to American industry owe their first start to the Navy for the earliest recognition of the value of their instruments. In fact, in the case of most of the more scientific office equipment, the Navy was either the first or an early purchaser, and the Naval offices may lay extremely just claim to being forerunners in the science of office management, just as the Navy has led in other important industries such as steel, monel metal, the electric globe, the radio telegraph, and the radio telephone.

"Mechanized down to the last point, the Naval offices on battleships are generally composed of two groups, the main executive office and the paymaster's or supply office. In each are batteries of typewriter, mechanical and electrical adding and computing machines, and the most modern filing systems.

"In each battleship such as the West Virginia, the Navy operates some sixty typewriters, in the main offices, supply offices, Captain's writer's offices, radio rooms, and communication offices. These machines are all recorded by numbers in the Navy Department at Washington, and the Supply office in the Department can tell at any time where a machine is, whether it be in China, the Philippines, Samoa, Guam, Hawaii, Alaska, Panama, the Virgin Islands, in the Embasies, or in some Naval shore station. Each battleship and every repair ship in the Navy is equipped with a first-class typewriter repair shop which can care for every typewriter trouble up to actually rebuilding the machine. In charge of these repair shops are qualified typewriter men who secure from the leading manufacturers the latest repair parts and keep in touch with the evolution of design generally.

"To care for Naval writing traffic, there are in use more than 5,000 in the Navy. With the total of all mechanical and electro-mechanical office devices in active use daily. This ranks as one of the highest figures in the world, for but few civil concerns depend as heavily on mechanical aid as does the Navy.

"In fact, so typewriter-minded has the Naval personnel grown that of the 86,000 enlisted men, 19,000 Marines, and approximately 9,000 officers, more than seventeen thousand use portable typewriters for their personal writing. It is no unusual sight to find seven young men sitting in the shade of a bulkhead of a Wednesday or Saturday afternoon, typing out their own letters and private accounts. As it happens, many of them write for newspapers and the smaller magazines, and spend much of their spare time in this kind of correspondence. When Colonel Lindbergh was returning from Europe, aboard the Memphis, he borrowed typewriters several times from members of the crew who carried their own portables. "Writing home" from the Navy these days involves the portable typewriters."1

An approach to the problem of estimati ng the extent of the present use of the typewriter in business is made in the following paragraph:

"The extent to which machines are used in business varies with the kind of establishment, the only omnipresent machine being the typewriter. The small office, such as the lawyer or doctor would maintain, employing one gir, has usually only a typewriter. The office where as many as three girls work, may have a billing machine in addition to the typewriter, or perhaps only a wide-carriage typewriter for invoicing. Banks use a number of comptometers and adding machines and proportionately few typewriters. A typical bank in Cleveland has 30 adding machines and 14 typewriters. Some large offices are equipped with as many as 6 or 7 different machines; others have only one or two kinds. One company confines its use of machines to billing typewriters and dictation machines of which latter there are 20; another uses 10 different kinds of machines; still another uses four different kinds, including 40 dictating machines."1

Although the foregoing paragraph makes only a rough estimate regarding the use of typewriters in business, and although it confines that attempt to one city, the information given serves to show the intensive use of the typewriter in a limited field.

Perhpas some idea of the present use of the typewriter in business could be gained indirectly through consideration of the fact that the "Occupation Statistics" issued by the United States Department of Commerce in 1932 and based on the census figures of 1930 lists a total of 811,190 workers "gainfully employed as stenographers and typists in 1930.

The same bulletin lists 615,154 stenographers and typists as fainfully employed in 1920. The increase of 266,063 over a period of ten years

1. "While the Guns Roar the Typewriters Click", G. K. Spencer, The Gregg Writer, June, 1930

means that an increased number of machines are in use today, despite the depression. If to the number of stenographers and typists are added those in clerical occupations where a typewriter might be used the census figures of 4,025,324 "gainful workers" in clerical occupations is significant, especially in view of the fact that this figure puts "clerical occupations" fifth on the list of gainful occupations". The higher ratings are given such extensive groupings as Agriculture, Manufacturing, Mechanical Industries, Trade, and Domestic and Personal Service.

Another glimpse of the extent of the present use of the typewriter may be had from an analysis of the enrollments in typewriting classes in schools. The following analysis was received in answer to a request made of the Bureau of Education, Washington, D. C.:

United States
Department of the Interior
Office of Education

Washington, D. C.,
11-17-32.

Enrollments in Typewriting Classes in the Various Types of Schools for the Years Indicated.

Type of school and date.	Enrollment
Junior high schools, 1927-1928, day classes	60,284
Public high schools, 1927-1928, day classes	439,379
Private high schools and academies, 1927-1928 day classes	31,570
Private commercial and business schools, 1928-1929 day classes	1/96,635
Private commercial and business schools, 1928-1929 evening classes	1/29,261
Teachers colleges, normal schools, and colleges and universities	No complete data

1/ Figure includes enrollments in the stenographic, secretarial, and combined courses.

As exact statistics regarding the present use of the typewriter in business are not available for the purpose of this thesis an interpretation of the significance of such related figures as could be collected would seem to be warranted by the circumstance that the typewriter companies hold their current sales-records as trade secrets. In general the export figures, the figures revealed through Doctor Wood's experiment, the figures regarding the use of the typewriters in the Navy, Eaton and Stevens' general analysis of the use of the typewriter in Cleveland, the United States "Occupation Statistics", and the statistics regarding enrollments in typewriting classes, all point definitely to the conclusion that the use of the typewriter is almost universal in present-day business. When these figures are supplemented by personal observation and experience, it is not difficult for the individual to come to an understanding of the fact that the typewriter is mightier than either pen or sword in present-day achievement in business.

Summary of Part I

The material presented in this thesis and the conclusions reached result from an attempt to analyze the effect on business brought about through the invention, development and use of the typewriter. It has been felt that an understanding of the term "Business" was a necessary preliminary to any attempt at estimating the importance of the typewriter as a part of business. To this end, therefore, Business has been regarded as a profession, as a science, as a means of employment, and as a social unit. The quoted material under the treatment of each of the foregoing aspects of business has been selected from widely differing sources; namely, from the speeches of business men and educators, from texts in history and sociology, from magazine articles, and from popular treatments (Valentine's Manual)

of topics relating to business. These sources have been identified in each instance and will be further identified in the bibliography.

The analysis of the use of the typewriter in business was based on material furnished by the large typewriter companies, the Gregg Publishing Company, and the United States government. When used in this thesis, the material was identified, and it will be further identified in the bibliography.

Identification of Method of Research

So far as possible, the research was related to three aspects of the problem; namely, the historical, the social, and the statistical. As investigation of a number of histories that treated the Industrial Revolution, the Age of Invention, and the social and political conditions of the Eighteenth century revealed many facts connected with the subject of business and helped establish the relationship of the typewriter to business. "People's Cyclopedia", published toward the close of the Eighteenth century, contained a very complete history of the invention of the typewriter. The development of the typewriter was treated at length in material secured from the Remington Company. Many interesting sidelights on the subject were found in "Valentine's Manual". A complete list of these sources and of supplementary sources will be found in the bibliography, together with the statistical material supplied by the Government departments and bureaus.

The Relationship of Typewriting to Other Fields of Activity

Few positions offer more opportunites for advancement than those growing out of secretarial work. Many of America's leading business men and business women began their careers as stenographic-secretaries. There is always a demand on the part of executives for men and women who can assume the duties of a secretarial position. Typewriting and shorthand are essential requirements of their position, but once these requirements are met the close relationship of stenographic duties to other branches of business activity makes many opportunities possible. As has been pointed out the typewriter gave great impetus to shorthand. It was the typewriter which proved the value of shorthand. Shorthand is dependent upon the typewriter as is the dictaphone and ediphone. Shorthand, which, of course, necessitates the typewriter has been instrumental in bringing success to many outstanding figures of the business world today. William J. Deegan, who is now Vice-President of the Postal Telegraph and Commercial Cable Companies and confidential assistant to the President, Clarence H. Mackey says, "Shorthand was of great value to me, especially in the first ten years. It was my letter of introduction to the head of the company.-------Opportunities in business are just as good now as they were twenty years ago. Indeed, there are more big jobs. But it is more important than ever to have business training. No stepping-stone could be better than shorthand. As for educational opportunities they are greater than they ever were, and more young men are making use of them. It is a fascinating game. If I had my life to live over, I would do exactly as I have done. I would begin with Postal as a messenger; learn shorthand; and grow with a single concern

rather than flit from one job to another."[1]

Morgan Shuster, who is now head of the Century Company, started as a government stenographer, became Collector of Customs in the Phillippines at twenty-four, and gave the following answer when asked if shorthand was helpful to him:

> "It certainly has, particularly in the beginning. If I hadn't studied shorthand, I wouldn't have received a salary while in the law office. Neither would I have had the opportunity to serve in Cuba, and later as Collector of Customs for the Philippine Islands."[2]

The experiences of Mr. Shuster indicate that the life of a stenographer

> "need not necessarily be hundrum. His success, of course, has been due to his own ability, but no one can deny that stenography gave him his chance. If he is alive to his opportunity, the stenographer learns many things from close and constant association with executives. When he is taking down letters in shorthand, he is really being paid to listen to a series of lectures on how to ruan a business, a railroad, or a magazine. If he demonstrates that he has initiative, the 'boss' will hand over some of the routine details of the business to him. The, before the stenographer knows it, the executive begins to look around for someone to fill a vacancy. Why not the person whose qualifications are known to him?[3]

Geroge B. Cortelyou who has served three Presidents of the United States started as stenographer and secretary and has held three cabinet positions. Mr. Cortelyou has been president of the Consolidated Gas Company of New York for twenty-two years. He speaks of the advantages of shorthand and typewriting as follows:

> "Well, let us assume that a young man, a year out of high school, is looking for work. It may provide him with the entering wedge, without which he would be halted at the very threshold of opportunity, or at least delayed in gaining admittance. By having something specific to offer an employer, the writer of shorthand stands a better chance of getting the start of a race but although it is the finish that counts, still a good start is a big help. Shorthand also gives him a wider range of selection in casting about for an opening by increasing the sum total of his availability. It may serve as an entering wedge, as I have said, but whether shorthand will smooth the way to promotion depends a great deal upon the personal equation. Once in an organization, it is strictly up to the stenographer to make good.
>
> "It might be well to point out, however, that, instead of being marooned in the outer fringes of a firm, the stenographer generally

1. "From Messenger to Vice-President to Postal Telegraph Via Shorthand", Burt M. MCConnell, The Gregg Writer, Nov. 1931, The Gregg Publishing Co.
2. "Stenographic Jobs that are Different", Chester E. Shuler, The Gregg Writer, Feb., 1930, The Gregg Publishing Co.

finds himself near the inner circle, for he is often attached to the office of one of the higher executives. He comes under his personal observation, and recognition--if the young man merits it--is likely to follow at the first opportunity. The success of his secretary is confirmation of the executive's good judgment in picking him in the first place.

"Let us assume, then, that this young fellow of nineteen or thereabouts is installed in the executive office. If his chief happens to be a general officer of the corporation, the stenographer gets a bird's-eye view of the business and comes to know all the other officials. And this, let me assure you, is no small factor in whatever future success he may have. He is not only permitted but encouraged to familiarize himself with the work of the various departments, and if a vacancy occurs anywhere in the organization--a vacancy which he is qualified to fill--he may usually rely upon his superior to help him secure it, and thereafter to keep a friendly eye upon him.

"The stenographer meets and talks with many people who come to see his chief, and thus has opportunity to form personal contacts which may be helpful to him in later years."1

Howard W. Schotter, Assistant Treasurer of the Pennsylvania Railroad, during an interview made the following statement:

"Shorthand was the foundation of whatever success I have attained. In no other way except through stenography could I have made as much progress.

"I believe--there is no better stepping-stone to success than shorthand. That is for any young man who is unable to secure a technical training in some profession. A stenographer is in a far better position to learn a business, through daily association with one of the executives, than is the average employee, who is unable to observe what is going on in other branches of the firm's business. Take, for example, my own case. There are no figures on hand, but the Pennsylvania system had perhaps 100,000 employees at that time. How many of these ever had an opportunity to come in frequent and direct contact with the president? Twenty, let us say. Out of these twenty, perhaps half a dozen saw and talked with him every day--and see my point; if I had not been a stenographer in the office of the chief clerk, I probably wouldn't have made any sort of contact with the preseident in 50 years. As it was, the knowledge of shorthand eventually brought me into the office of a vice-president who later became the head of the Pennsylvania, Mr. Samuel Rea. It was in Mr. Rea's office that I learned the policies and traditions of the company. I had an opportunity to observe how executives of a great railway arrive at decisions, and in later yars I found this experience to be invaluable."2

Harriet Beecher Stowe may be said to have been a pioneer in her recognition of the possibilities afforded through stenography to women. She says:

1. "The President of a $1,000,000,000 Corporation on "Chossing a Profession", Burt M. McConnell, The Gregg Writer, Feb., 1932, The Gregg Publishing Co.
2. "The Story of a Man Who Keeps $35,000,000 in the Cash Box", Burt M. McConnell, The Gregg Writer, The Gregg Publishing Company

"No lady can have a better safeguard against adversity of fortune or a better resource in time of need than a knowledge of shorthand, and business affairs."

The following quotation from "The Gregg Writer" illustrates the close relationship of stenography (shorthand and typewriting) to many other fields of business activity:

"And stenography has proved itself not only women's most reliable bread-and-butter earner, but has furnished her with her richest slice of plum cake. Zelda Sears got her real training for the stage while she was a stenographer to Clyde Fitch. Mabel Herbert Urner, while acting as a stenographer to Cleveland Moffett, was inspired to try her hand at writing, and Miss Helen Tyler, New York's most successful women theatrical broker and producer, served her apprenticeship as stenographer with a firm of publishers."

"The women who have business sense find stenography their best stepping-stone to big salaries, as is proven by Miss Katherine Harrison, who was said to draw $40,000 a year as the private secretary of the late H. H. Rogers. The confidential secretary of George W. Perkins is also a woman, as is the secretary to Gage C. Targell. Miss Reah Whitehead, a judge of the Justice Court of King County, Seattle, Washington, was a stenographer when she decided to study law at a night school. From court reporting she went into the law, and eventually to office.

"But the list of women stenographers who have achieved success is as endless as that of the men. Shorthand opens up to them a vista of endless possibilites in the way of business opportunities that nothing else does".1

The foregoing statements and quotations indicate that there is a distinct relationship between stenographic work and other fields of business activity. The close relationship of the typewriter with telegraphy has always been recognized, but an expansion of that relationship with the introduction of the typewriter to police work has created an entirely new field for the typewriter. Some appreciation of the nature of this new field may be gained from the following quotation:

"You'll probably be interested in knowing that there are about 25 of these 'different' stenographic positions waiting to be filled in that famious organization--THE PENNSYLVANIA STATE POLICE--which has been maintained by the commonwealth of Pennsylvania for twenty-four years and which today is the leading police department of its kind in the U. S.

1. "Realizing Your Ideal in Business", The Gregg Writer, April, 1930, The Gregg Publishing Company

"All of this, however, is duty aside from the regular work of the troop clerical force, and the men have so much routine work to perform in their offices that they cannot give attention to the more unusual duty which is required. And so, recognizing the importance of this service, the Superintendent of the Pennsylvania State Police, Major Lynn G. Adams, has determined to provide a corps of trained "trooper-stenographers," whose duty it shall be to handle this phase of the work exclusively; men who, in addition to being competent stenographers, will be full-fledged Pennsylvania State Policemen, just as competent to make an arrest, if need be, as to record a statement in shorthand or operate a typewriter.

"Accuracy is of course essential, because the statements taken from witnesses or criminals may later be used in trying the case in court. Also he should be competent to operate a typewriter, as much of his work with the Force would probably require the use of a portable machine of standard make."1

Perhaps the latest development in typewriting and the development that bids fair to expand the usefulness of the typewriter beyond anything that has thus far been accomplished is the introduction of the "telephone-typewriter" which brings together the speed of the telegraph and the telephine, the flexibility of conversation, and the permanence and accuracy of print. The "telephone-typewriter" transmits messages instantly, accurately, and permanently. It provides both the reader and the sender with a typewritten copy that can be filed for future reference. One distinct advantage of the "telephone-typewriter" is the fact that even if no person is present to receive the message when it is typed, the receiving set will take care of everything itself. This single factor alone hols many advantages for business.

Thus far, the chief use of the "telephone-typewriter" has been in police work. St. Louis, Boston, Worcester, Hartford, Buffalo, and Pittsburg have already installed systems. The state of Pennsylvania has a master-machine installed at Harrisburg. This machine serves a system extneding over 3500 miles of telephone circuits throughout the state. The 45,000 square miles of territory in the state of Pennsylvania have been

1. "Stenographic Jobs that Are Different", The Gregg Writer, February, 1930, The Gregg Publishing Company

"zoned" into four sections, in each of which there is a sending machine and a receiver. These zones are connected by direct circuit with Harrisburg.

The full significance of the "telephone-typewriter" can only be glimpsed at present as offering another field of business activity closely related to typewriting, but the development of that field may, in the future, bring as many betterments to business as did the introduction of the typewriter to business in the eighteenth century.

That the typewriter companies are on the alert for any development that will make the typewriter mre useful and adaptable to more uses in business may be seen from the following outline which was secured from the Remington Rand Company in answer to a request for material to be used in preparing this thesis:

> "Back in 1873 when Christopher Latham Sholes invented the first typewriter, he feared that it would be just a novelty--used for a time perhaps, and then discarded. He certainly did not realize the role that the typewriter was to play in the world.
>
> "The Remington Rand Company in 1931 made a survey of the typewriter work in the offices of the nation. This survey disclosed that there were no less than 124 different writing operations. Today the typists wants a machine which exactly fits the work she is expected to do. The Remington Rand Company alone makes ten distinct models, including the noiseless and the portable. Some of these with six or more widths of carriages (1) With or without eleven distinct accessories, each having its specialized function. Some of the adjuncts to these machines are as follows:
>
> (2) "Key set decimal tabulator
> Electric carriage return
> Stroke and word counter
> Card, label and continuous roll attachments
> Palm tabulator
> Annular scales and caption scales
> Skipping device
> Throw-in levers
> 'Punkch-proof device' which prevents the electric fan from blowing the paper down over the keyboard.
>
> (3) "There are 84 styles of type faces, ranging from those tiny, con-

densed but distinctive 'microtypes' and minuscules', throught the many designs of stately Gothics, chummy italics, severe Romans, check-protecting indenting, to the very well-known pica, the daity elite and big bulletin type that can be read by grandma across the room.

(4) "From these have evolved more than 5,000 keyboard groupings covering all languages, professions and industries. Today nearly one hundred languages are found among the keyboards of the Remington machines. Hundreds of trades and professions have a special keybaord to meet their own particular requirements.

(5) "The grocery, drygoods, bottling, plumbing, lumber and a number of other businesses have their own peculiar signs and symbols. The musician may write his compositions on the music keyboard of a Remington. The doctor, druggist, dentist no longer need depend on pen or pencil to write those mysterious characters that spell health and happiness. The engineer, the chemist, the architect may find the strange characters of their professions on the special keyboard."1 We even have typewriter for actually drawing electrical diagrams and we must not forget the Braille keyboard which is such a Godsend for the blind.

And then add to these the twelve grades of ribbons and twenty-two weights of carbon paper, every one of which is being used in some kind of work in some office somewhere in the business world.

The foregoing information indicates that, so far as is possible, the typewriter manufacturers not only intend to give recognition to the relationship of the typewriter to other fields of business activity but also to manufacture and market machines designed to meet the needs of those related fields of activity.

The concluding paragraphs of a letter received from the Underwood Company give in some detail information regarding the manufacturer's attempt to meet the needs of both new and old markets by improvements in design and mechanical operation of the typewriter. The paragraphs from the Underwood letter follows:

"In the uses to which typewriters have been placed, there has been the same degree of advancement as in the improvement of the machine and the methods employed in its manufacture, and this has been particularly true during the last five or six years. Prior to that time, our company, which should afford a good comparison for trade wants, made but two widths of typewriter carriages, 10 in. and 14 in. res-

pectively, the 14 in. alone representing the machine for special purposes. In response to increasing demands they are now made in seven widths, from 10 in. to 26 in.

"Coupled with this great variety of widths of typewriters, there have been designed, step by step, numerous attachments to be applied to any width of carriage and for some particular class of work, such as did not apply to typewriter machines of the past. These may be enumerated as follows:

"A so-called condensed billing attachment, which is meeting with so many and varied requirements with large business houses in general.

"The tally strip device, which, in particular has proved popular in department stores.

"The universal card attachment, which facilitates the placing of a card to conform with the original printed matter contained thereon.

"The decimal tabulator, which applies os well with insurance companies, banks, and with many other branches of work.

"A label-writing attachment, adapted for the writing of labels in drug stores, as a label the size of an ordinary postage stamp can be placed under perfect control while writing.

"An envelope and card inserting attachment.

"A paper roll and paper knife attachment, particularly adaptable to railway work.

"A typewriter-adding machine, the combination affording great advantage with certain classes of work much as is common with large manufactueres, department stores, banks, and some branches of insurance.

"A back-spacing attachment, which facilitates the correcting of an error, particularly when quickly detected, as when using a visible writing machine.

"Writing machines are also equipped with special type, such as would apply in the writing of life insurance policies, and also for check writing in non-erasable form.

"A word regarding the growth of the typewriter business from its small beginnings may be interesting. It is estimated that in normal times about 300,000 high-grade typewriters are now produced yearly, representing a business of about $30,000,000 annually. It is also true that the United States has produced nearly all of these machines from the first, Germany alone having made any progress in this direction and only in recent years. It is also estimated that there are between 1,600,000 and 1,800,000 writing machines in daily use; lending tremendous earning power and commercial advantage as against the old time practice of hand writing. In fact, the art of stenography, coupled with the use of the writing machine, has given such relief to men of high position as to add much toward the world's progress."

The Relationship of the Typewriter to Education

With the invention of the typewriter, there came about the necessity of training operators of the new machine. In America, the business school had come into being before the typewriter gained much recognition, but in Europe the typewriter companies set up their own schools. The Remington Company established schools at Paris, Berlin, Vienna, Moscow, Petrograd, and many other cities soon after the invention of the typewriter. In Australia, the Remington schools at Melbourne and Sydney have graduated thousands. Even in South Africa and the Orient the Remington company maintains schools for typists.

In America the business school and the typewriter manufactureres have cooperated in making possible the training of skilled typists. As the need for typists increased the "commercial course" found a place in the public school system. Education, however, adopted the teaching of typewriting to the schools, but every large company maintains a research department the findings of which are made immediately available for school use. The "touch system" of typewriting was a direct contribution from this source. In 1889 the Remington Company staged a contest in Omaha. Two educators of that city entered into a friendly competition and through the exhibition given by their pupils demonstrated the advantages of the "touch system". It was found that more than half the schools had instruction in the "touch system", and that the majority of the other schools intended to introduce the system. Today the "touch system" of typewriting is a fixture in private school and public school education.

As American education has become increasingly "public education," it has sought to include within the public school curriculum anything that

might aid pupils to attain the skills necessary for success in life. The ready adoption of courses in typewriting by the public schools of America is at once a proof of the social purpose of the public schools and a tribute to the social significance of typewriting. Educational developments in commercial courses have been grouped around typewriting and shorthand as the basic subjects.

There has always been a divided point of view regarding the admission of typewriting and shorthand into the public school curriculum. Advocates of the abolition of these courses from the public school curriculum argue somewhat logically that it is a waste of time and of public funds to educate pupils in techniques that could properly be taught in business, or in schools established by the manufacturers of typewriters. In support of their argument these educators point to the fact tht in Europe the typewriter companies maintain their own schools for typists. On the other hand, an increasing number of educators argue that as Business is a social unit pupils in the public schools should recieve training that will make them socially useful, and these educators present the claim that the inclusion of typewriting in the public school curriculum enriches the value of the curriculum and lends itself readily to the more general pruposes of education. This argument is well-presented in the following quotation:

> "Stenography, when properly taught and thoroughly mastered, has even greater value, considered from a purely educational standpoint. To become even a moderately successful stenographer one must have training along several lines, each of which has a large educational value. These are as follows: (1) It compels one to think quickly and accurately. It is of great value to any one to be thoroughly awakened mentally and to have acquired power to think clearly. (2) The scientific study and practice of stenography compels the development of greater ability to hear things accurately. The inability of the average high school and college student to hear all that he should hear and hear it accurately is really appalling. Stenography, more than any other study, will very largely overcome this almost universal weakness. (3) Mas-

> tering the technic of memorizing is an especially important feature which results from the thorough training of this subject. I do not know of any other subject which affords an equally valuable and specific training. (4) The most important mental training resulting directly from this study is the development of ability to concentrate the whole mind upon the work in hand--------Since the study of stenography is especially valuable in developing such power, it seems that there should be no question as to the advisability of introducing this subject in every high school, not only as a part of the commercial course, but also as a regularly disciplinary study."1

Although the foregoing represents an extreme position recognized by Alexander Inglis who quotes it only to attempt to disprove it, the fact remains that the teaching of typewriting and shorthand in the public schools needs, and is getting, such justification as the point of view developed by S. A. Moran makes possible. If education is to accept the contributions of industry as an aid to the general purpose of ducation, then the invention of the typewriter has made possible and educational enrichment of the public school curriculum. If, on the other hand, Education merely assumed, as Inglis seems to imply, the burden of training workers for industry, the typewriter manufacturers should berequired to do her as they do in Europe. The answer to the questions implied above, seems to be decidedly in favor of accepting the teaching of typewriting as an educational opportunity which should be controlled by the schools. The growth of commercial courses in secondary schools, and the constant attempt to reconcile these courses with educational purpose would seem to indicate that education has adopted the teaching of typewriting as a means of educating pupils rather than as an end to be sought in itself.

The close cooperation of typewriter manufacturers and educators may serve to make possible a type of commercial education far superior to anything that would be possible in the mere training schools provided by industry. In any event, it would seem to be a reasonable conclusion, in

view of the facts as they are, that the typewriter, directly or indirectly, bears an important relationship to education whether that relationship is considered as an educational asset or as a liability. In general it is safe to assume that vocational training, so far as it includes typewriting ad shorthand, is safe in the schools, and is sure of its place in the curriculum because the invention of the typewriter is definitely a factor in the establishment of the present-day status of business:

1. As a profession
2. As a science
3. As a social unit
4. As a means of employment

Whatever may be said of the necessity of industry's training its workers, it can not be denied that any one of the four factors that thus determine the present status of business is an essential element in our determination of objectives for public education.

To be at all familiar with the history of business and the rapid change which has taken place in business since the advent of the typewriter is to appreciate the opportunities that have been made possible for those who are skilled in the art of typewriting and also who add to that skill and educational background sufficient to meet the needs of business and a personal adaptability sufficient to make the best use of such opportunities as are availiable.

In the early Eighties the executive was concerned almost entirely with the local market; his manufacturing interests were limited to his own product; his marketing problems were comparatively few; and it was no difficult task for him to supervise the work of his organization in all of its departments.

With the development of modern machinery, the scientific organization of banking systems, the improvement of transportation, and the perfection of systems of business management, have come demands upon the time of the executive that force a distribution of authority and responsibility. Out of this necessity has come the development of new forms of business activity and of business apprenticeship. The traveling salesman of a few years ago has been largely superseded by the more modern "sales-representative", and the older type of yarn has given place to talks on "sales-engineering" while the flock of trunks has been discarded in favor of charts, statistics, and "sales-lieterature". The "Correspondence clerk" and the more professional "scribe" have become merely picturesque figures of the past. Replacing the "salesman", the "correspondence clerk" and the "scribe", we have the modern display room, the telephone, the sales-letter, the secretary, and the stenographer.

The invention of the typewriter has played a very important part in the development of modern business, and, together with shorthand, has opened up many opportunities for the profitable use of typewriting. Perhaps the most important of these opportunities are to be found in public-stenography or in secretarial work.

The Public Stenographer

The public stenographer is the direct descendent of the "scribe". To the extent that the "scribe" offered professional services, the public stenographer does the same. To the degree in which the educational and technical assets of the "scribe" were superior to those of the "correspondence clerk", the ability and skill of the public stenographer surpasses the efforts of the ordenary typist or secretary. The public-stenographer must know her work thoroughly, and must have the rare intelligence that will give her almost immediate comprehension of the essential factors in the work of her clients. The success of the public stenographer depends on her business ability and personality. She must be a good saleswoman, able to build a large clientele. She must be unusually prompt in her work, for once she disappoints a client she is likely to lose his business forever. Unlike the stenographer in an office who has to know the peculiarities of the few men she worked for, the public stenographer has to work for hundreds of people. She must, therefore, be tactful, agreeable, adaptable, patient, prompt, neat in her appearance and in her work, educated and intelligent beyond the sphere of mere stenography. In brief, she must regard her work as professional service, and thus bring stenography to the professional level. The profession of "scribe" is probably as old as any in history, and even in the days of the "itinerant penman"

it had an exclusiveness and dignity that the public stenographer must retain.

Opportunities in public stenography are remunerative, but the remuneration varies with the ability of the public stenographer. Two thousand dollars a year to $5,000 a year is a fair estimate of the profit in this field, although some public stenographers maintain a staff of stenographers and average from $10,000 to $20,000 a year in profits.

In the "Occupation Statistics" published by the United States Department of Commerce, 1932, public stenographers are not listed separately, but are included in the figure previously quoted of 811,190 stenographers and typists. Some idea of thepopularity of this profession may be obtained, however, from the fact that the 1932 "Classified Telephone Directory" for Boston, Massachusetts lists over 85 public stenographers. Analysis of the foregoing figures reveals the fact thatten or more of the 85 so listed in the directory maintain staffs of from ten to thirty full time typists.

The Stenographer-Secretary

Next to the one who receives, issues, and follows up the orders of the senior executive, the private secretary occupies the most strategic position in business. The private secretary is so placed within the organization that he may learn the most vital lesson pertainingto its success.

The duty of the private secretary then is to plan, think, analyze and organize for the high salaried business or professional man to the end that his time may be saved and his efforts made more productive. The secretary is not to be confused with the stenographer, whose duties are almost wholly routine. The secretary is one of the main assistants to the executive and for this reason is trained along broader lines, comprehends and deals with the more important problems of the business.

The private secretary has an assured place in modern business. Such a position is no longer an experiment. A secretaryship is a profession in itself and should be so considered. It demands definite training as well as a good general education and should be prepared for in the same devoted manner as the other professions.

Many a business or professional man will testify that he does his work promptly and efficiently because of his secretary. He admits that his efficiency is increased greatly with a well-trained secretary to save him time, worry, and annoyance.

Modern business demands managerial ability. It would be most inefficient for a $20,000-a-year executive to spend a large portion of his time every morning in opening his mail, answering every telephone call, seeing every caller and checking himself up on the many details to be taken care of in the routine work in daily business or personal affairs. The executive must have the type of assistant who can relieve him of detail and minor executive responsibilities that he may be able to give his full time to the creative side of the business. Secretaries are indispensible to executives. So long as there is work to be delegated to another, so long as there are details to be looked after in an office, here will be need for secretaries.

Unlike any other psoition in a business office the secretary is in touch with every phase of the business, and for this reason if a general training has been had in business administration the goal of higher responsibility is quickly achieved.

The salary of the private secretary varies according to the individual, his maturity, his training, and his natural aptitude of the work. The initial salary varies from $85 to $150 a month. In some instances, pri-

vate secretaries have made their services so valuable to employers as to command as high as $10,000 a year. In a bulletin entitled "Why?" issued by Boston University College of Business Administration in 1928, an occupational analysis of the graduates of the college is given, and on page five the following significant figures are listed:

	No. Reported	Median Income	Highest Income
"Private Secretary	17	$1900	$3300
Chamber of Commerce Secretary	5	2700	4700"

Every business man has to answer his mail; he directs a large part of his business through correspondence. But if he were compelled to look into the files for back correspondence; to find the stationaery, and to run the typewriter, he would never have time for anything else. So he has a stenographer.

Stenographers help to place in actual operation many of the business ideas of the men by whom they are employed. The stenographer, sitting at the desk of the man who directs an important part of the organization, is allowed to see that mind focused on problems as they arise.

Important deals are carried through, sales campaigns mapped out, new organization methods planned, adjustments made--everything of importance calls for the personal attention of the heads of the departments. And the stenographer has the opportunity to see it all.

Considering the time necessary for training, it can truthfully be said that there are few positions in the business world that provide a better "opening wedge" to bigger things, or offer more advantages and opportunities to the young and ambitious, than stenography.

Competent stenographers find that their duties enlarge with their

ever increasing knowledge, and their environment assures them of an expansion of their business horizon.

The rather general introduction of commercial courses in the public high schools provides for the vocational needs of both public stenography and occupational stenography or secretarial work. The high schools ordinarily offer stenography and bookkeeping, occasionally training for retail store positions, specialized clerical positions, and machine operating. Two-thirds of the secondary pupils in commercial courses are girls. In fact this large enrollment of girls represents one of the greatest social, educational, and occupational changes in history. For example, there were only 200 typists and stenographers in the United States in 1890. By 1900 there were 115,000. Ten years later there were 350,000. There was a total of 750,000 in 1920, and approximately a million in 1930. The teaching of shorthand and typewriting and the overcoming of prejudices against women in offices and stores has opened new fields for them. Today a few million women are engaged in office and store positions, and most of these positions require a knowledge of typewriting.

The opportunities made possible for women in the field of stenography have a two-fold aspect, first, they bring to a higher level the economic status of women and thus have a distinctly social value; second, they bring women into business and thus force on business protective legislation for employees that makes possible the improved status of modern business as a social unit.

Behind all this change in the vocational outlets provided for both men and women in business is the invention and development of the typewriter, which is an essential factor in the established status of modern business as:

(a) A profession
(b) A science
(c) A means of employment
(d) A social unit.

BUSINESS LETTER WRITING AFFECTED BY
THE GROWING USE OF THE TYPEWRITER

Writers of texts on business letter writing often justify their claims for definite rules regarding "Froms and Arrangement" by statements that "It looks better in type", or "this form has been found best for typewritten letters". No research in this field has been made, however, and a letter sent to "The Gregg Publishing Company" brought forth the following interesting reploy to a question regarding the extent to which the typewriter affects the business:

> "Your last query has to do with the changes wrought in letter set-up by the typewriter. I think these changes have been very slight. The common form in the old, pen-and-ink days was the full page, indented style. Styles of arranging the date, the block style of letter, and semi-black, and the use of capitals in firm signature and identification initials have crept in--but letters are much as they used to be. The machine increased the volume of business, and it is likely that this volume tended to eliminate the useless opening and closing phrases. A few faddy styles, such as the hanging indentation type of letter, the extreme block letter, etc., have undoubtedly been the direct result of the use of the typewriter. Of the particularly useful changes, I think the block and semi-block styles are the most important. They really have save time and came into being as the result of typists trying to save time.
>
> "Whether letterheads have changed as a result of the impact of the machine is a moot question. Undoubtedly the shifing of the city and state from the lower right corner of letterheads to a higher and more central position was in part due to the tendency to type only the date and make it the only link between letterheand and body of the letter. This change might have come about anyway, whoever."1

The foregoing quotation presents a somewhat cautious claim for the influence of the typewriter on the form and mechanical arrangement of business letters. This claim is further substantiated by the following excerpts from texts on letter-writing:

> "The two types of letter forms that are most generally used are the block system and the stepped or indented system. Possibly the block system is coming into more general use because of its simplicity and because it can be typed more rapidly."2
>
> "During the World War an order was issued by Rear Admiral Wood to the

1. Letter from Harold H. Smith, Assistant Editor, The Gregg Publishing Company, February 18, 1933
2. "Principles of Effective Letter Writing", Lockley, McGraw Hill Book Company, 1927

effect that in signing an official document an officer must first have his name typewritten and then write his signature under it.---------- Many business firms have also found it wise to adopt the same idea."1

"Some of the advantages of the block style in typewritten letters are (a) it saves the time and energy required to space in for the indented sytle, (b) it is pleasing to the eye because of the straight lines,---------".2

"The block sytle has gained in favor because it takes less time to bring the typewriter carriage to one position to three."3

"By the test of utility, the block form is preferable. It saves the typist's time. By the test of beauty, the block form is also superior in typewritten letters, because it gives clear-cut, symmetrical appearance."4

"First, many individuals feel that the physical appearance of the indented form is not so pleasing as is a modified block form. Second, it is a little more trouble for the stenographer to throw the carriage of the typewriter back (on a three- or four-line inside address) to get the correct indentation on each line."5

The foregoing quotations do not, it is true, establish a direct influence o f the typewriter on the form and arrangement of business letters, but they combine the opinions of representative authorites on letter-writing to the effect that typewritten letters differ from handwritten letters in establishing a preference for the forms recommended.

One very obvious innovation in letter writing since the typewriter has come into common use is the practice of including the dictator's initials and those of the stenographer. Whether this practice would have come into use regardless of the invention of the typewriter can not be determined, but the fact is that this practice along with that of typing "file-numbers" and the practice of using "window envelopes" is peculiarly adapted to the use of the typewriter.

Aside from the technical details of business letter-writing, is another factor that deserves some consideration, namely, that of the increased number of letters written today in business. The typewriter has made it pos-

1. "Business letter Writing", Davis and Lingham, Ginn and Company, 1925
2. "Elements of Commercial English", Zerbe, American Book Company, 1924
3. "Effective Business Letters", Gardner and Aurner, The Ronald Press, 1928
4. "Modern Business English", Babenroth, Prentice-Hall, Inc., 1925
5. "Business Letters", Burd and Miller, McGraw-Hill Company, 1930

sible for the business man to combine in his letter-writing the elements of legibility and of rapid mailing that have done much to make the letter an important part of business. Some understanding of the extent of this development may be gained from the following quotation, cliped from a recent issue of the "New York Times":

> "The rapidity of the growth in the use of the typewriter is shown by the marked increase in the manufacture of typewriters and supplies from 1924 to 1927. The value of these manufactures increased during these years from twenty-four and one-half million dollars to over sixty-nine million dollars, or a little less than three fold.".

With the increase of the manufacture of typewriters and of typewriter supplies, the implication that letter-writing has increased in business seems justified. As a metter of fact the increased use of the typewriter has made "Correspondence" an important element in business. With the exception of the unsolicited cash sale, nearly every business transaction is sooner or later a matter for correspondence. In most business houses the executives and important officials have their own private secretaries, who attend to many things besides letter-writing, but it is a growing modern custom in houses where the volume of outgoing mail is large to turn the greater part of it over to a correspondence department. Properly organized this department constitutes a business organization in itself, and the large amount of business entrusted to this department is sufficient evidence of the fact that business letters are affected by the growing use of the typewriter in business. A casual glance around any business office will reveal one or more girls busily engaged at the typewriter, and the larger the office the more the impression grows that the invention of the typewriter has made possible the emphasis placed on correspondence as an essential factor in the conduct of modern business.

EDUCATIONAL DEVELOPMENTS TO MEET BUSINESS NEEDS

The changing economic and social systems of the 19th and 20th centuries have caused commercial education to develop in order to meet the demand for trained workers. The growth of commercial education has been retarded by traditional ideas of education, by social prejudices, and by lack of co-operation with business. Today, however, commercial education is establishing aims and realizing standards that make it of practical value to the business world.

From the very beginning America was a nation that produced and exported raw materials. Its commercial activities were concerned with the transportation of such materials. All business activity had therefore, been simple, unorganized, and personal in form. Ideals were narrow and individualistic, and competition was marked by shrewdness. After the industrial revolution, commercial activity grew more complex, more organized, and developed a more scientific as well as a more impersonal form. Ideals became broader and more universal,and competition tended to over-emphasize the importance of productive power. The nation turned to manufacturing rather than to shipping. From a nation of traders, America became a nation of manufacturers and to some extent of industrialists.

Factory production, a wide market, and the large volume of business transacted with distant customers, gave rise to a demand for a vast amount of what A. W. Shaw has called "the facilitating processes of business". Transactions must be recorded, letters must be written, reports of business too large for personal observation must be given as a means of control to the business organizer, calculations of diverse sorts and varieties must be made, estimates and proposals computed and presented for the judgment

of the director of the large business. In other words, the increased size of business, coupled with a distant impersonal market and the variety of specialized functionaries who aided in the distribution of goods, called upon accounting and communication to function as they had not functioned before. The work which was called for did not need a great amount of intelligence, enterprise or initiative; it required accuracy, exactness, and painstaking care in the performance of specialized clerical tasks. These changes ment that the productive power of the nation depended on producers. The demand for better trained citizens increased. Industry required skilled workers, and increased production with increased marketing necessitated that compilation of records and the contriving of means of communication be placed in the hands of highly trained and intelligent employees.

By this time the apprentice system, which formerly fitted the youth for his technical work, disappeared. The apprentice system was too costly becuse it was slow, inefficent, and cumbersome. This new era, which was one of specialization and subdivision of labor, did not require the "journey-man". The demand in industry and commerce for workers caused a great movement of people from the country. This increased the number of untrained workers which, of course, only emphasized the need for training. These changes in life, both in the home and in industry, emphasized the need of changes in education. The modifications in existing school included prevocational and vocational training. As social and economic conditions changed, so the aims, methods, and ideals in commercial education changed. Commercial education developed from simple training to complex training.

Commercial education in the United States may be said to be characteristically American in its beginnings. As growth of private enterprise in

response to public need, it was spontaneous, and several early forms were almost simultaneous. The commercial school began as a private enterprise but eventually came to be a part of public education. It began with a very limited training in clerical studies. It now includes instruction in several broad fields of commercial activity. It began as a special class in the regular classical high school. It is now in separate departments and in separate schools of commerce. There was practically nothing of instruction in preparation for business life in the early part of the last century. If a boy planned to enter business, he left school at an early age and entered stores or offices where he served an apprenticeship for a certain period. Here he learned such bookkeeping and business methods as were then in vogue. The kind of instruction depended on the man for whom he worked. This type of training did not give an opportunity for uniform instruction or for an improvement in methods. It was too slow. As commerce increased more and more, men were attracted into the storeand office. The introduction of commercial education was opposed by both the educational leaders and by business men as the ideals of each were quite different. Business men opposed the inclusion of business subjects into the schools as they considred the aims and methods of education as impractical and useless for their purposes. The educators considered that their aims had been commercialized or or cheapened. The two, however, have reconciled this recognition of the essential uniformity of their interests and their mutual helpfulness is not the least important advance made by education in the past century. As a result of the growing cooperation between business men and educators, commercial education has effectually displaced the older "apprenticeship" type of training for business.

For a long time, the needs of those pupils who were interested in business as a possible life-work went unheeded. Finally, about 1830 and 1840, as business increased, private schools and classes in bookkeeping sprang up in all the principal cities of the United States. These schools gave the first commercial education and were the forerunners of the modern business schools now found in almost every important city in the United States.

There is considerable doubt as to who founded the first commercial school. Many say that it was R. M. Bartlett of Philadelphia who founded a school in Philadelphia to provide a substitute for apprenticeship. Others say that it was James Bennett, a New York accountant who sometime between 1818 and 1836 conducted a private school in which bookkeeping and navigation were the principal subjects. James Gordon announced a school of the same kind in 1824, but it is doubtful if it was ever established.

Other early schools were founded by Peter Duff of Pitsburg, George N. Comer of Boston, and Jonathan Jones of St. Louis. The reports of the United States Commissioner of Education seem to indicate that Dolber's Commercial College organized in the City of New York in 1835 was the first school in America which was devoted exclusively to commercial education. In most of these school bookkeeping was the foundation subject.

The first teachers of bookkeeping are really the pioneers of our present business-college system. They were carrying on a needed work. One of these teachers in speaking of this period said: "It was at that time impossible to get into business without having learned bookkeeping, and so the first business college began as between a man who wanted to know something in order to advance his own interests, and another man who was able to impart that knowledge and willing to do it for a consideration."

Silas S. Packard and Platt R. Spencer formed penmanship classes in various cities. From these classes schools were formed. In the many schools that sprang up the main subjects were bookkeeping and penmanship. Quite frequently commercial arithmetic and commercial law were added. At a later date shorthand and typewriting came in.

There are three distinct periods in the development of the business-college system of commercial education; namely, the experimental period, the monopolistic period, and the modern period. Between 1834, the time of the establishment of the first business college, and 1850, there were a score of such schools in the various cities of the United States, and by 1860 there were more than thirty in existence. In the ten years following 1860 more than fifty new private business colleges were founded to meet the demands resulting from the reorganization and changes that followed the Civil War. Before 1860 the business colleges were organized to provide mere clerical training for those who wished to enter business as clerks and bookkeepers. There were no textbooks. The subject matter was dictated from the experience of the instructor, and the equipment was usually a single room having a few charis and a desk. These schools taught for practical utility rather than for cultural value. The instructors were often men who were lacking in education, especially in English composition, and frequently they encouraged extremely mechanical methods of work. Only the needs of business and the unusual demand that existed for trained workers kept these early schools in existence. As educational institutions they would be frowned upon, and perhaps legislated against today, but the greatest defect in these commercial colleges, even greater than the lack of trained instructors, or of equipment, was the fact that the managers had too keen a desire to make money. The private business school often operated as a mere employment

agency whose clients paid for training and often for placement as well.

The second period began about the middle of the fifties. During this period, educated and practical men began to establish chains of business schools in a number of cities throughout the country. The first of these chain of colleges was the Bryand and Stratton Business College established in 1853. H. B. Bryant and H. D. Stratton formed a partnership which included James W. Lusk. This chain was the most important of several like organizations attempted. The announced policy of this firm was to establish colleges in each city of the United States having a population of over ten thousand inhabitants, and to place in charge of these, young men, who acted as managers and received a share of the profits of the particular school under their direction. These schools were provided with uniform textbooks, and a scholarship purchased in one shcool was honored at any time in any one of the Bryant and Stratton Colleges thoroughout the United States. This policy shows the attempt to monopolize the field of commercial education. Bryant and Stratton determined to crush all competitors and formed a perpetual partnerhsip which was to extend to their executors. The success of this great plan failed because of internal strife and the failing health of Mr. Stratton who was the real director of the organization. The shortly before the death of Mr. Stratton the partnerships were ended. These private schools tended toward monoply but the plans were never fully realized. Other commercial associations of schools were begun in 1866, but none ever became as successful as those of the Bryant and Stratton chain of the early 60's. Then followed a period in which inducements were offered to part-time students. In some cases only the entrance fee was necessary. Much advertising was done in which "brass bands, stump speeches, and exhibits at country fairs and the like were among the schemes resorted to

by some of the aggressive "Educators". This sort of thing, of course, brought many charlatans into the field and caused the work to suffer accordingly. In spite of all this business schools grew in number and in size. They were furnishing training that could not be given elsewhere. The training they gave was useful and necessary. In 1840 there were only a few students enrolled in these schools, but by 1840 the enrollment was more than 100,000. By 1840 the instruction was still vocational, but it had become much broader and thorough while it still retained its practical nature. These schools which arose to fill a need were successful and accomplished the end they wished which was to prepare men for business careers. The "monopolistic endeavor" of this period, however, despite its failure, did much to establish uniform aims, methods, and ideals for commercial education.

In the modern period of development, extending from the early 90's, there has been standardization, under the principle of private gain, of the work offered in business colleges. The criticism that the function of the commercial college is limited seems justified. The private business college from its beginning until the present time, has aimed to give only "satisfactory technical training for commercial clerkships." The private business college, conducted for gain, can offer only the very technical studies, for those offered on any other basis, if added to the regular program of studies, makes the work prohibitive in cost; and if offered separately fail for lack of pupils. Thus, there is, at the outset, a definite restriction placed on the growth of private school education for business. The private business school must be a paying venture, and it can be only as it limits its courses to the specific things sought by its pupils.

During the last two decades three new types of institutions have developed which offer commercial training, the semi-public type, the correspondence

school, and the corporation school. The Young Men's Christian Association, teh Knights of Columbus and other like institutions have thousands of students enrolled in evening commercial courses. Their aim is to conduct the classes so that the pupils bear only the expense of the instruction. Several corporations, realizing the value of preliminary instruction for both the employee and employer, have established classes in different phasies of commercial work. Such corporations as the Larkin Company of Buffalo, New York, the Southern Pacific Railway Company, the Lakeside Press, R. R. Donelley & Sons Company, Chicago, the National City Bank, and the National Retail Drygoods Association, provide classes in commercial subjects for their employees.

According to the statistics on business enrollments in 1893 compiled by the United States Bureau of Education there were 115,748 students enrolled in private commercial and business schools. For several years after 1893-1894 the enrollment in the private business schools diminished. One reason for this was a general business depression. Another reason was that the private commercial schools were now coming into strong competition with the instruction that was beginning to be given in the public high schools, normal schools, and universities. In 1881 the Wharton School of Finance and Commerce was instituted in the University of Pennsylvania. The statistics of the United States Bureau of Education showed that in 1893-1894 there were 15,220 students pursuing commercial studies in public ghigh schools.

The development of the public commercial education in this country is only one phase of a larger movement, the growth of public secondary education. Very early secondary schools established and controlled by private individuals or corporations, more or less supported by public fund,

threatened to become the controlling type of secondary schools in the United States. This tendency the public school was forced to combat for more than a half a century and the outcome of the public high school movement was dubious. The public high school has forged ahead of the private institution because it is more efficient and it is more efficient because it is amenable to social control, as well as because it is beyond the mere profit type of education.

About 1890 the present period of commericial education in the United States began. The years from 1892 until the present time have been full of improvements and developments. This period may be considered the one in which real commercial education was being accomplished. In an address given in 1890 by Professor J. James of Wharton School before the American Bankers' Association he expressed his belief in the value of the University School of Commerce. In 1890, he made a plea for the establishment of separate commercial high schools. There was an organization formed in 1878 in New York which was called the Business Educators' Association. This organization was composed, for the most part, of teachers in private commercial schools, and it exerted a marked influence in systematizing and improving the work of private commercial schools. It also had a great deal to do with the improvements in commercial education in public secondary schools.

Up to about 1900 the progress in commercial education was apparently slow both on the part of educators and of business men, but the business men were silently doing a great deal.

The private commercial schools had a period of decline after 1894, and in 1898-1899 their enrollment was reported to be only 70,186, but with the opening of the new centurythey began to assume greater importance, from that time until 1908 they steadily increased in number and the quality of

instruction offered. In 1904-1905 the number of schools reporting to the United States Bureau of Education was 523, with 146,088 students reported. In 1904-1908 there were 558 schools, reporting 154,963 students. The following year showed a further decrease of 541 schools with 134,778 students.

The private commercial school still occupies a very important and necessary place in commercial education. In aim and method the present-day business school differs very little from the earliest type of business school. Private business schools today still give vocational instruction, a substitute for apprenticeship; they specialize in vocational subjects; and they offer only such cultural subjects as are forced on them. Today, as in the past, they train hundreds of thousands of young men and women in business techniques. The schools that were first established taught mainly bookkeeping and penmanship; those of the present day have added commercial arithmetic, commercial law, correspondence, business forms, typewriting, shorthand, and sometimes other subjects. Then there are other schools that, in an attempt to supply deficiences in preparatory training, include geography, spelling and the like.

In 1895 a committee of the Department of Business Education of the National Educational Association drafted the following outline and suggested it for private schools. The outline was published in 1898. It is as follows:

Mathematics (a) Bookkeeping
Writing (a) Penmanship (b) Shorthand (c) Typewriting
Business (a) Business Practice (b) The History of Commerce (c) Commer-
Geography
English (a) Spelling (b) Grammar (c) Business Correspondence (d) Composition (e) Public Speaking

In the above suggested curriculum, bookkeeping was regarded as a fundamental study. There were, however, few schools that gave instruction in all the courses listed.

Any student who has graduated from one of these private business schools will have sufficient mastery of the tools to enable him to earn a livelihood immediately, and many graduates of private schools have risen to important positions. Because of the competition between the private schools in large cities, the standards of instruction have risen decidedly and now the best schools give a thorough and practical training in commercial subjects. The outstanding criticism of the private commercial schools today, aside from the somewhat narrow and technical character of the instruction, is the mechanical character of the instruction, that results in too great insistance upon rules, and too little upon principles. This fault is today the very virtue of the school, practicality, which looks no farther than an immediate result. The performance of tasks rather than the solving of problems is too often the end that is sought to the exclusion of other things important in education. Externals are frequently regarded too highly, and perfect work is accepted as a substitute for perfect understanding of the nature of the work. The correct slant and uniformity of letters are high ideals to be gained, while the understanding of the problem involved is neglected. The purpose of the commercial education of private schools is far from education in its true sense. Mental training without mental development is all too characteristic of the present-day private business school which takes the older "apprenticeship" system into the classroom and provides training rather than education. Many private school owners do not attempt to deny this fact. They simply agree that this specialization, or training in a specialty, is their distinctive and necessary function.

Commercial education in public schools encountered much opposition and there is still much suspicion and antagonism directed against it. At the very outset the educational system in the United States is not as com-

pact as are the educational systems in many other countries. In America the control is largely local, making it difficult to institute a new movement. Much time has been lost by states in making experiments and even more time has been lost by states in waiting for other states to make experiments. Instruction in commercial studies has been retarded by lack of any unified system and by the general conservatism of educators. Educators objected to commercial education on the grounds that there was no room for it. Commercial education was, of course, out of place in the primary school, and educators said the secondary school was a place for students to prepare for college. The studies of the secondary school were cultural or academic and since commercial subjects were not regarded as cultural they should not be included in the secondary school curriculum. In spite of the fact that few went to college, the educators believed that those who did not go to college should be given a substitute in the way of culture. They did not believe that there was any room for practical or vocational instruction.

The public demand for instruction of this kind in the secondary school became so insistent that it could not be unheeded. The tax payers became dissatisfied when students had to leave public high schools early in their courses to enter private schools in order to get instruction for their business careers. The taxpayers felt that the public schools for which they were taxed should provide for the education of their children whether those children were going into college or into business. There was an overwhelming demand that the public schools be made public. In answer to this demand a commercail course of two years (sometimes one year) was offered in many high schools before 1890. This movement rapidly extended thoroughout the country. In 1893 there were 15,220 students in these courses; in 1895, there were 30,330. In the years 1893-1899 the number of students in

these courses increased, while the enrollment of private business schools decreased. In spite of the fact that a marked change in enrollment ought to indicate that the public school courses were better than those in private schools, the courses in the public schools in the majority of cases were poor and often real bad. There was little encouragement of commercial courses other than the fact that the demand for such training was too insistent to be overlooked. Since the educational system had to accept commercial education, the teachers simply imitated the private school methods. The quality of instruction and the methods of instruction were very inferior. The short commercial course in high school was not a success and began to fall into disrepute. The graduate of the commercial course did not compare favorably with the graduate of the 4-year classical course students. At that time the private schools surpassed the instruction given in the public school course and since then the private school has improved to meet the competition of the public schools.

In 1900 many of the larger cities of the country established seaparate high schools of commerce. As a result of the address given by Professor Edmond J. James of Wharton School in the University of Pennsylvania, interest in the new course was aroused, and in time there was a general tendency to lengthen and broaden the commercial course given in the public high schools. In 1898 the Central High School of Philadelphia founded a separate commercial school with an entirely distinct curriculum. Then shortlyafter this the High School of Commerce in New York was opened. Then similar schools were opened in other cities such as Pittsburg, Chicago, Brooklyn, and Washington. In most of these schools the course did not differ much from those of the ordinary high schools except that the classical studies of the course were omitted and only the commercial courses were given. One big advantage

of these schools was that all the students had a common aim and another advantage was that they afforded superior facilites for work. The length of the course was ordinarily four years, instead of three, two, or one as in the commercial course of the ordinary high school. These schools were better but not essentially different from the earlier type. In New York and Phildelphia a slightly different plan was put into operation. In these two schools there was some attempt to provide a general education for business as well as to provide training in business techniques. As a business career was to be the goal, then all preparation should have that in mind. The whole course of study had to be reconstructed and made to serve an entirely different function from that of the classical high school. Not merely the the commercail branches proper, but all the studies in the curriculum, were to be adapted to the business needs. One of the big reasons for the slow development of these schools was the great need of suitable teachers, and the other was the need of much experimentation. The experiment is still going on today. The commercial schools have obtained much from the study of German schools. The development in these schools has been inward. In the study of language, the commercial school emphasizes the ability to speak the language rather than the ability to read the language and in the study of biology, chemistry, and the like the commercial importance is demonstrated.

There are only a few high schools of this type in the country today. The educators of the country are beginning to realize that if vocational instruction is to be given by the public school "it should be given whole-heartedly, and not in grudging acquiescence to a demand. It should prepare a student not merely to accompalish certain tasks, but to grapple with new problems".

An examination of the courses of study of the High School of Commerce in New York, the High School of Commerce in Worcester, Massachusetts, the core commercial courses in Hartford Public High School, the Weaver High School, and the Bulkeley High School of Hartford, Connecticut and the commercial courses in the high schools of Newark, New Jersey on the following pages show how important typewriting has become in the high school program, especially if compared with the outline of 1898 on page 96.

Today the cultural value of education is by no means lost in spite of the fact that practical instruction is given. Commercial education is regarded as a "well-considered and intelligent problem designed to meet the real needs of a large body of students for whom the classical school offers no attractions". Today we find that many schools plan their courses to meet even the needs of those who will not remain until graduation. The graduates of the high schools of commerce find it easy to obtain work in business. Although they are not as well prepared in mechanical lines, they have a capacity to acquire new knowledge and to use it. Many of them who go on to business colleges find the first-year work of excellent university schools of commerce almost elementary to them. Much has been done in the way of advancing commercial education. The commercial secondary schools are becoming a very important part of our public school system with a clearly defined relation to the other parts.

The present-day attitude toward commercial education is best expressed as the attempt to educate pupils in theprinciples and underlying implications of business, while providing them at the same time with a thorough training in business techniques. This attitude is developed at some length in the following quotations:

HIGH SCHOOL OF COMMERCE
155 West 65 Street
New York City

COURSES OF STUDY

BUSINESS COURSE

Term 1	2	3	4	5	6	7	8	Required Units
Eng	Eng	Eng	Eng	Eng	Eng	Eng	Eng	4
Civ				Hist	Hist	Hist	Hist	2.5
Sci	Sci					Eco	Law	2.
Bus.Pr	Bus.Pr	Alg	Alg.4b					2.
Typ	Typ							.5
Draw	Draw	Draw	Draw				Ar-Type	
PT-Hy	PT-Hy	PT-Hy	PT-Hy	PT-Hy	PT-Hy	PT-Hy	PT-Hy	2.
MU	MU	MU	MU	MU	MU	MU	MU	
5	4	2	2	2	2	3	3	13.0
ACCOUNTING		Bkg (Com. Geo. (Ind. Chem	Bkg (Com. Geo. (Ind. Chem	Bkg	Bkg	Bkg	Bkg	Elective Units
SECRETARIAL		Steno (Com. Geo (Ind. Chem	Steno (Com. Geo (Ind. Chem	Steno	Steno	(Sec.Tr (Re- port- ing	(Sec.Tr (Re- port- ing	
BANKING AND INSURANCE		Bkg (Com. Geo (Ind. Chem	Bkg (Com. Geo (Ind. Chem	Bus. Math	Bus. Math	Stat	Banking	4.
COMMERCIAL ART		Com. Art	Com. Art	Com. Art	Com. Art	Com. Art	Com. Art	
SALESMANSHIP		Com. Geo	Com. Geo	Trade	Trade	Sales	Advertising	

ELECTIVES

				Bus. Math	Bus. Math	Salesmanship		
				Trade	Trade	Advertising		
				Phys. Ma- terial of Com- merce	Physcs Ma- terial of Com- merce	Banking		
						Marketing		
						Industrial Organ- ization		
						Statistics		
						Office Management		
						Economic Problems		
						Retailing		
TOTAL		4	4	4	4	5	4	18.5

HIGH SCHOOL OF COMMERCE COURSE OF STUDY
WORCESTER, MASSACHUSETTS

FIRST YEAR

FIRST SEMESTER	SECOND SEMESTER
REQUIRED	REQUIRED
English	English
Algebra	Algebra
General Science	General Science
Business Ethics & Office Deportment	Penmanship
ELECTIVES	ELECTIVES
French	French
German	German
Latin	Latin
Spanish	Spanish
Freehand Drawing	Freehand Drawing
Harmony	Harmony
Manual Training	Manual Training
Mech. Draw. Daily	Mech. Draw. Daily

SECOND YEAR

FIRST SEMESTER	SECOND SEMESTER
REQUIRED	REQUIRED
English	English
Typewriting	Typewriting
Business Arithmetic	Bookkeeping
ELECTIVES	ELECTIVES
French	French
German	German
Latin	Latin
Spanish	Spanish
Stenography	Stenography
World's Hist. to 1600	World's Hist. to 1600
Botany	Botany
Zoology	Zoology
Freehand Drawing	Freehand Drawing
Harmony	Harmony
Manual Training	Manual Training
Mech. Draw. Daily	Mech. Draw. Daily

THIRD YEAR

FIRST SEMESTER	SECOND SEMESTER
REQUIRED	REQUIRED
English	English
Economics & Banking	Commercial Law
ELECTIVES	ELECTIVES
French	French
German	German
Latin	Latin
Spanish	Spanish
Geometry	Geometry
Bookkeeping	Bookkeeping
Stenography	Stenography
World's Hist. from 1600 - 1900	World's Hist. from 1600 - 1900
Physics	Physics
Freehand Drawing	Freehand Drawing
Harmony	Harmony
Manual Training	Manual Training
Mech. Draw. Daily	Mech. Draw. Daily

FOURTH YEAR

FIRST SEMESTER	SECOND SEMESTER
REQUIRED	REQUIRED
English or Journalism	English or Journalism
Office Practice	Office Practice
U. S. History	U. S. History
ELECTIVES	ELECTIVES
French	French
German	German
Latin	Latin
Spanish	Spanish
Bookkeeping	Bookkeeping
Stenography	Stenography
Salesmanship	Salesmanship
Senior Mathematics	Senior Mathematics
Chemistry	Chemistry
Freehand Drawing	Freehand Drawing
Harmony	Harmony
Manual Training	Manual Training
Mech. Draw. Daily	Mech. Draw. Daily.

HARTFORD, CONNECTICUT

COMMERCIAL

FIRST YEAR

REQUIRED

Algebra
English
Business
Choir Practice

ELECT ONE SUBJECT
Latin or French or German
Ancient History or Civics
General Science

SECOND YEAR

REQUIRED

English
Business
Typewriting

ELECT ONE SUBJECT
Algebra
Latin or French or German
Modern History or World History
Biology
Home Economics (for girls)

THIRD YEAR

REQUIRED

English

ELECT THREE SUBJECTS

Business ($\frac{1}{2}$ year), Stenography (elect one or both)
Plane Geometry
Advanced Algebra ($\frac{1}{2}$ year)
Latin or French or German
Physics
Physiology
American History
Commercial Geography ($\frac{1}{2}$ year)
Home Economics (for girls)

FOURTH YEAR

REQUIRED

English

ELECT THREE SUBJECTS
Business ($\frac{1}{2}$ year), Stenography (elect one or both)
Trigonometry ($\frac{1}{2}$ year)
Solid Geometry ($\frac{1}{2}$ year)
Latin or French or German
Chemistry
Astronomy ($\frac{1}{2}$ year)
Geology ($\frac{1}{2}$ year)
American Democracy
Commercial Law ($\frac{1}{2}$ year)

NINTH YEAR

English	5
XElementary Business Training (Including Penmanship)	5
XX Business Arithmetic	2½
Elementary Science	5
XXX Music OR Art Foundations	1
Physical Training & Health	1

ELECT AT LEAST 2½ POINTS

Modern Language	5
Algebra	5
Typewriting	2½
Domestic Art	1
Domestic Science	1
Manual Training	1
Freehand Drawing	1
Mechanical Drawing	1

X Those pupils who are not proficient in Penmanship may be required to do extra practice without credit.
XX Those pupils whose preparation in Arithmetic is considered adequate by the school may substitute a full time subject in its palce, or Business Arithmetic, Penmanship, and Elementary Business Training may be combined into one major for all.
XXX May be taken in the Tenth Year.

TENTH YEAR

English	5
Bookkeeping	2½
Commerce and Industry	5
Modern Civilization	5
X Typewriting	2½
Physical Training & Health	1

ELECT AT LEAT 2½ POINTS

Modern Language	5
Algebra	5
Geometry	5
Biology	5
Early Civilization	5
Domestic Art	1
Domestic Science	1
Manual Training	1
Mechanical Drawing	1
Art	5
Music	5

X Pupils who have taken the equivalent of one year of typing in previous grades may omit this course.

ELEVENTH YEAR

English	5
Bookkeeping	2½
Business Organization And Administration	5
Commerce and Law	5
Physical Training & Health	1

ELECT AT LEAST 2½ POINTS

Modern Language	5
Geometry	5
Chemistry	5
Physics	5
Commercial Art	2½
Domestic Art	1
Domestic Science	1
Mechanical Drawing	1
Manual Training	1
Art	5
Music	5

TWELFTH YEAR

English	5
Elementary Accounting OR Salesmanship	5
Economics and Problems of American Democracy	5
Office Practice and Machine Operation	2½
Physical Training & Health	1

ELECT AT LEAST 2½ POINTS

Modern Language	5
Advanced Business Arithmetic Science	5
Elementary Accounting or Salesmanship	5
Art History & Appreciation	5
Music	5

"When we consider the nature of the environment in which the individual must live, we discover that it is prevaded by the activities and problems of business. If understanding the world in which he lives constitues an important part of a liberal education--or culture--it would seem that the student's education should comprehand a knowledge and understanding of the fundamental principles and practices of business. Proficiency in the languages of former civilizations and familiarity with the customs of former civilizations is desirable, but an understanding of the organization and functioning of the economic and social world at present is more important.

"If business education is to perform its double function of developing and understanding of the individual with respect to the world in which he lives and of training in certain skills, it must concern itself with less than the traditional interpretation of the courses which are usually assigned to it. It would be a little daring to assert that the subject matter of business education is predominately cultural in its nature and possibilities; such a statement would at present be regarded by most persons as being unwarrantedly pretentious. More and more, however, the rich contributions which business education has to make to the cultural development of high school students is being recognized. The time will come when the subject matter in the business curriculum will not be regarded as having been designed only for those who are seeking some kind of mechanical skill which will enable them to secure a job or for those who are unable to assimilate a 'cultural' education". 1

In the beginning educators thought that typewriting taught itself, and therefore needed no teacher or any teaching. Typewriting has since demanded the attention and consideration of educators because it plays so important a role in every day business. In this transition of typewriting from a subject of no importance to one of major importance there have been some very significant changes in the way the subject is taught:

1. The change from the sight method, to the all-finger methods, to the touch method.

2. The change in the method of teaching the keyboard from the horizontal method (by rows only) to the vertical method (all the first fingers, all the second fingers, etc.), to the modern method which is a combination of both.

3. The modern method of using the most frequently recurring words; giving them as soon as possible, first as individual words in drill, then in phrases, and lastly in sentences. It is important here to use the words in sentences as quickly as possible.

4. The recognition of the fact that our "Teaching has been all too

1. "Cultural and Vocational Aspects of Business Education", Dr. J. H. Dodd, Professor of Commercial Education, State Teachers College, Fredericksburg, Virginia; The Balance Sheet, South-Western Publishing Co., Dec., 1932

logical instead of pedagogical."1 "Subject matter has been presented to the student as the teacher-mind had it pigeonholed for systematic reference."2 This, of course, was not the best way for student-learning.

5. The presentation of items of learning in function situations. This means that the student learns through "Intelligently controlled practice that is always guided by the right models set by the text and the teacher". 3 This eliminates verbal explanations and the tendency of talking too much about technique items.

6. Teaching is coming to be done by the objective method rather than by the introspective method.

7. The evolving of definite objectifes for our typing courses. We are working or formulating "A more dependable philosophy in regard to the course content and standards, lesson plans, and teaching methods and devices instead of just being concerned with how to keep students busy for four semesters in the subject." 4

8. The emphasizing of transcription and the right of the transcription students to the use of typing equipment before those who are taking typewriting just for credit or for personal use.

9. The shortening of the typewriting courses. We are including such allied subjects as office practice, and shorthand transcription in the typewriting course before two years of typing have been completed.

10. The emphasizing of "The importance of better training in basic skill in the use of the machine as a writing instrument." 5

11. The tendency to distinguish between instructing and preparing a student for definite production on the job, and mere training for the job.

12. The realization that quality alone is not sufficient and that we must train for quantity production as well.

13. "The hold of theoretical psychology and pedagogy is weakening and the old of practical experience and facts is being strengthened." 6 In this regard we are coming to "Accept the findings of the educational experimenters that early learning often proceeds more rapidly through trial and error experiences." 7 The learning student in this case must profit from his errors.

14. The intelligent use of the various supplementary aids, such as charts, phonographs, graphs, buttetin boards, etc. by the teacher.

1 through 7, Letter from Harold H. Smith, Assistant Editor, Gregg Pub., Co., Feb., 18, 1933, page 2

GAINS AND LOSSES

The Growing Importance of the Typewriter in Business

The importance of any device or technique employed in business is best evaluated through consideration of the following essential elements:

1. Improvement made necessary to satisfy the demand of business.
2. Use stimulated by adaptation to business needs.
3. Developments possible to further influence business.

Evaluated through consideration of the foregoing essentials, the typewriter is of growing importance in business as a brief development of each of the foregoing essentials in relationship to the typewriter will make evident.

From the earliest day of the typewriter there has been a constant evolution in typewriter design, manufacture, and use. The first machine introduced and which could be classed as highly practical was the Remington typewriter, possessing the now well-known type bar principle, which was first introduced about the year 1873. This machine was mainly invented by a man named Sholes. His machine proved to possess the more essential principles necessary to the class of typewriter which could best be constructed at that period.

A sufficient number of years have elapsed since these earliest efforts to enable those who have had many and varied dealings with the subject to judge why certain ideas in construction then prevailed. It can well be said that, at that time, to create a mechanical instrument which would possess all of the movements necessary to the writing of letters and to build it economically, could be rated as a considerable undertaking, even though certain sacrifices as regarded the user were allowed in order to favor the problem from a manufacturing viewpoint; and it is my opinion that the blind, under-strike machine, as constructed during its earliest stages, represented, and necessarily so, one of the simplest forms which could

have been introduced into a factory as a manufacturing proposition and at the same time possessed elements of fair speed and durability.

In this early machine the type bars were suspended in a circle, each and all so arranged as to strike upwardly to a common centre. The key levers represented levers of the second order, simply extending from the key button, reward, and hinged at the back of the machine. There were wire connections between each bar and its companion lever, which were fitted with a so-called turn-buckle. This turn-buckle rendered it an easy task to establish a proper distance between the two members, the type bar and the key lever, irrespective of the position at each engaging point, as the type bars, when inactive, rested upon a control ring or nest which served to arrest their movement when returning from the printing point. The spread of keyboard and lever system, as against the diameter of type bar suspension ring, was also worthy of note. These turn-buckles, furthermore, served the purpose under adjustmentto compensate for angularity of connection as well as to place each key button at its proper elevation, so as to afford an accurate level for all throughout each bank of keys.

Thus aside from the question of affording a proper and accurate jointage or hinge for each type bar, in order to insure truth of movement to the printing point, the rest of the type bar and key lever system required no great degree of exacting workmanship but in order to give these important advantages to their manufacture, visibility, one of the most essential qualities for the typist, was sacrificed. The operators of these machines were moderate in their speed of writing, refinements in detail as associated with the carriage movement were not then of a pressing nature in order to secure commercial success.

Before 1890 three distinct classes of machines had been developed and used extensively. It can truthfully be said that the greatest number of the three sold was that incorporating the type bar idea and with a single shift keyboard, each bar carrying two type--upper and lower case. This construction which was the most popular, however, still lacked a vital quality, namely, visability, and as the typewriter business was rapidly increasing in volume it was but natural that inventors should try to overcome this defect and so endeavor to reduce the improvement broadly to commercial practice.

Many minds were at work on this undertaking. Franz Wagner, a German by birth, was the one to present a foundation plan of the construction for the visible writing machine, and with the aid of other able minds, this developed into what afterward became known as the Underwood visible typewriter. This machine incorporated a front-strike principle of type bar, and was first introduced into the market in a very limited way in the year 1896.

The front-strike principle in visible writing machines had the following advantages: After printing, the type bar moves downward from the printing point, thus affording a quick return to the bar, particularly with a provision on the Underwood of the so-called banking ring. Against this banking ring each type bar dollides about midway in its length in printing, there-by affording a quick reacting movement lending speed to the machine by aiding in the prevention of type bar collisions, this banking ring also helps to quickly separate the type from the paper after the imprint is made and thus prevents a blur, as with a speedy up-to-date machine the carriage movement starts simultaneously with the contact of the type. While it is true that in starting the type bar in action toward the printing

it immediately begins with an upward movement, yet this seeming disadvantage is very cleverly overcome by means of a CAM action associated with the bar, whereby the greatest leverage is had in starting the bar into motion.

The front-strike idea also places the printing point at the best position and favorable to the operator. It also makes possible in the construction of the machine a proper position for parts such as would otherwise detract from this valued quality.

The building of typewriter, cash registers, and adding machines, sewing machines, small fire arms, bicycles, etc., comes within the scope of what is known as manufacturing on the interchangeable part plan, the sewing machine presumably being one of the first inventions wherein this system was applied in a broad sense. This system was developed almost wholly in New England, and principally in the State of Connecticut, as was also the case with the sewing machine itself. Associated with this system of manufacture are several machines, which were necessarily perfected to give the plan completeness and economy of method. While this group of machines is at present extensively used throughout the civilized world, giving wonderful productive power, New England contributed: the milling machine, punch press, drop hammer, high speed senstitive drilling machinery, and the profiling machine, the latter so largely used in fire arm manufacture on irregular forms of compounded type.

In addition to those that I mentioned in the paragraph above, the following special tools, jigs for the establishing of holes with interchangeable accuracy, punches and dies of endless variety for the shaping of sheet metals, and milling machine cutters with their many irregular forms were made.

The progress made, in the way of raw materials as applied to instrument building, in the manufacture of steel in its various forms has been very great, and as similar gains have also been made in the production of other raw material, so likewise have the manufacturers of special and complete mechanisms followed in the train of mechanical progress. For example, should a typewriter factory cease to harden all of such parts, as is the practice of today, and yet do all else equally well, its products would be practically valueless to the using public, although but a few years ago very few of the parts received such treatment. The result is a greatly increased life and substantial value commercially.

Assuming, therefore, that the constant improvement in design and operation of the typewriter is sufficient indication of the importance of the typewriter in business, the figures previously given in this thesis regarding the number of typists gainfully employed may be sufficient to indicate that the use of the typewriter has been stimulated by the adaptation of the machine to business needs. As has already been shown, typewriter manufacturers have been most active in making the use of the typewriter evident to the public. In Europe, Asia, and Africa, the manufacturers have established their own schools; in the United States they have entered into close cooperation with educators; and they maintain research departments which are constantly making new adaptations, such as the "touch system", the "noiseless typewriter", and the "telephone-typewriter" practical and popular.

With regard to the third essential, namely, the possibility of develments to further influence business, it may be assumed that the invention of the typewriter has so influenced business as to become an integral part of modern business. Invented to satisfy a need, the typewriter is

now being manufactured to meet a demand. The things the typewriter had made possible for business are premanent as business is permanent. As business develops, these things will develop and the typewriter as a part of the very essence of business will develop in a way to further influence business as:

(a) A profession
(b) A science
(c) A means of employment
(d) A social unit

The Over-Emphasis of the Merely Mechanical Importance of the Typewriter in Business

There are some people who have believed and there some who still believe that typewriting is purely mechanical, that it is mothing more than just so many letters struck by just so many fingers of each hand over and over again in connection with the continued manipulation of the carriage lever until the particular work at hand is done or until the work of the hour or day, and so on, is completed.

If you just look at the typist as he or she is at work that is most likely all that you will see. There is truth in the statement that the operation of the typewriter is mechanical, but is that as far as typing goes? No, for even in the operation of the typewriter the mind must function. Just plain typewriting, especially at a high rate of speed calls for a high degree of concentration. The stenographer who is transcribing her shorthand notes has to think fast and clearly if she is to transcribe with exactness what has been dictated to her. She must translate her notes into good English, through the medium of the typewriter. This requires the exercise of mind, hand, and eye.

Then, what does the finished letter represent? Many times it is the only contact between business men. It is the medium which puts over an important deal involving thousands of dollars. The typewritten letter is often times the convincing salesman. It sells because it tells in a legible form what the seller has to offer and what the purchaser is ready to buy.

The keeping of records is an important function of modern business. It is becoming even more important today than ever before. Records must be easy to read and they must be lasting. The records made by the typewriter are certainly legible, and they certainly last. These records are far reaching in their results because they may be the records of transactions and plans that have done great things or that are to do great things for business and for the nation.

The typewriter has been a boon to the blind. It has made it possible for many of them to find employment as useful and needed workers and operators of the ediphone and dictaphone.

The typewriter has also lead to the simplifying of office equipment and has made possible many businesses heretofore unknown. New devices are constantly being invented, manufactured, and sold which, if traced to the cause would indicate that the typewriter inspired or started the idea.

The typewriter saves time. Mechanical? What was more mechanical than the old-fashioned bookkeeper perched on a stool, posting or closing entries, or just simply adding up rows, and rows of figures. He has disappeared. In his place we have the combination typewriter-bookkeeping machine.

Outside of the work done by the printing press or multigraph no machine does better or clearer tabulation than the typewriter. How easy it is to read a page of tabulated statistics, to add them, and to compare them.

The typewriter has simplified the work and brought economies in time, energy, and labor in banks, insurance companies, and all kinds of manufacturing plants, businesses, and even in the home. It has taken much drudgery out of work in all walks of life. It has brought new types of work and has provided employment for many.

In general, it may be said that the mechanical improvements made in the typewriter habe been something more than mere material improvements, for they have helped to make the typewriter more useful to greater numbers of people, and they have thus extended the social benefits that resulted from the invention of the typewriter. Any consideration of the typewriter as a mere mechanical device neglects the important influence that the typewriter has exercised in the development of modern business.

A Historical Development of the Course in Typewriting

The first method of operating a typewriter was the "sight-method", now referred to as the "hunt and peck" method. When this method was in vogue only two giners were used and neither a textbook nor a teacher were considered necessary. The "touch method" of writing was a contribution of the blind. They were the first to discover it and to use it. It was a long time before operators or schools came to accept it and to use it.

Frank E. McGurrin was the first sight operator of remarkable skill to adopt the touch method. While a clerk in a law office in Grand Rapids, Michigan, Mr. McGurrin taught himself to typewrite on a Model I. Remington. At a later date he became the champion speed operator of his time. It was he who, in the exhibitions that he gave in the different cities of the United States during the early eighties, demonstrated that touch typewriting was possible.

Mr. M. V. Longley, of Cincinnati, Ohio was one of the first to attempt to train students to use all the fingers in operating the typewriter. This "all-finger method" later developed into the touch method. Mrs. Longley and her husband, Elias Longley, established the Longley's Shorthand and Typewriting Institute. This school was the first business school to give systematic instruction to pupils by the "all-finger method" in 1881, and the next year she published her "Remington Typewriter Lessons". In these lessons we find the first printed system for teaching the all-finger method.

It seems that at the first Annual Congress of Shorthand Writers, held at Cincinnati in 1862, Mrs. Longley read a paper in which she advocated this all-finger method for typewriting. In advocating the use of all fingers she compared the typewriter to the organ or piano, pointing out that a pianist or organist could not be expected to be successful unless he

used all his fingers and both his thumbs. H. V. Rowel, manager of the Boston Office of the Remington Typewriter Company, was among those in the audience, and was very much impressed by what Mrs. Longley said. He immediately became an enthusiastic advocate of the new method, and he is in a very large measure responsible for persuading teachers to give the new idea a trial in their classrooms. W. E. Hickox was the first business educator who took up this method at the suggestion of Mr. Rowell. He introduced it in his private shorthand school at Portland, Maine, in 1882. This made him the second educator in America, and the first in the East, to adopt the all-finger method.

In 1884 at the Fourth Annual Congress of the International Association of Shorthand Writers, which was held at Harrisburg, Pennsylvania, Mr. Rowell read a paper on typewriting. In this paper he indorsed Mrs. Longley's ideas about using all fingers for typewriting and, in addition, argued that this all-finger method enabled the operator to keep his eyes on the copy and in this way to attain greater speed. This factor made a great impression on many teachers.

The next exponents of this new idea in teaching typewriting were R. J. Griffin of Springfield, Massachusetts, and Bates Torrey of Portland, Maine. Mr. Griffin allowed only this method of typewriting to be used in his school. The outstanding success of Mr. Griffin's pupils made a deep impression on other business educators of the country. In 1889 Bates Torrey published "A Manual of Practical Typewriting". In this manual he called the new method "the touch method". This gives him the distinction of being the first to use the word "touch" as applied to typewriting in printed form. This new manual was in point of view a great advance over that found

in Mrs. Longley's Remington Typewriter Lessons". Her method was really a touch system in its results, rather than in its main purpose. Her main object was to improve the method of fingering. Thus it took seven years for the "touch method" to develop out of her all-finger method. The "touch method", then, may be said to have started in 1889. During the next few years many new manuals came out with the presentation of the "touch-method" of typewriting on their text, and one school after another adpoted this method. Soon the touch method was firmly entrenched in the East.

Another typewriter man, C. P. Judd, manager of the Remington Office in Omaha, Nebraska, was responsible for the growth of the touch system in the Middle West. The method was spread far and wide in the Middle West in this way through the friendly competitions inaugurated among educators by A. C. Van Sant and Mr. Mosher. The exhibitions given by the well trained pupils of these men convinced all that saw. Either in the year 1890 or 1900 Mr. Van Sant gave an address on touch typewriting before the National Commercial Teachers' Federation. This address was followed by a demonstration by two of his students. His address and the demonstration so impressed his audience that touch typewriting began to sweep over the country.

A survey made by the Remington Company early in 1901 showed that at least half of the schools of the country had already began instruction by the touch method and a majority of the other half intended to do so very shortly. The old "hunt and peck" method very soon disappeared from the schools and the old-style operators have entirely disappeared from the present-day business offices.

The next step was the typewriting contests. The first typewriting contest was held on July 25, 1888 at Cincinnati. This contest was between

Frank E. McGurrin and Louis Traub. This contest was not one to test the utmost capacity of the operator, but it was really a contest between two different systems of typewriting. Louis Traub was an agent and an expert operator of the leading double-keyboard machine of that day. He opposed McGurrin both in the keyboard used and the method used. The conditions of the contest were that there was to be 45 minutes of writing from dictation and 45 minutes from copy from unfamiliar matter. McGurrin won very decisively on both of the tests. The oustanding fact was that his speed increased three words per minute when he was writing from copy, while Traub's speed fell off twelve words per minute on the same test. This contest convinced Traub of the superiority of the touch method, and he later became an expert touch operator of the shift-key machine.

The new scheme, which was then considered a method, was supported by the typewriting companies and demonstrations of the various companies were soon given by the typewriting agents who were traveling all over the country. Next came the national typewriting contests. In these contests the rivalry of the typewriter companies was concentrated upon the scientific aspects for the training of the operators. In these early contests the matter to be typed in the contests was not especially prepared or selected, nor was it specially printed in large, clear type. The managers of the contest sent someone out to buy several copies of a newspaper, and then they took an editorial article and handed a copy to each contestant. The syllabic intensity therefore was disregarded and the operators were decidedly handicapped by the small type, close lines and by the fact that they were compelled to write many times in a dim light. The first world's championship which was won by Miss Rose L. Fritz in 1906 at 86 words per minute, net, it is

believed, would by the present-day stroke method be about 120 to 125 words per minute, net.

The following quotation indicates some of the difficulties encountered in the earlier teaching of typewriting:

> "Early textbooks were very crude. Usually they consisted of some fingering exercises, followed by business letters in imitation typewriter type, and some forms. In nearly all of them a large porportion of the forms were legal forms, because in the early days the typewriter companies believed their best customers were lawyers and court reporters, and the authors of the typewriting books naturally adopted that idea. At one time the instruction was given by charts; but after a while teachers rebelled against this."1

Although many methods of teaching typewriting have been devised since the touch system, most of these new methods have revealed nothing essentially new.

The old idea that nothing but a typewriter and a text were needed to learn to typewrite has disappeared. The teachers of typing and the authors of textbooks "have come to realize that the same pedagogical and psychological principles observed in the teaching of other subjects must be adhered to in teaching typewriting, if results are to be obtained. Consequently, a technique of instruction has been developed that requires superior ability."2

"The principle of supervision in study or work is now generally considered the basis of instruction methods in typewriting". 3

When someone discovered that unsupervised work permitted no personal contact between the teacher and the pupil, more attention was given to the students and better results were obtained. School authorites and supervisors began to see the necessity of supervision, and today typewriting is being given equal time and instruction opportunites with other commercial subjects.

1. "Technique of Teaching Typewriting", Jane E. Clem, page 60, Gregg Publishing Company, 1929
2. Ibid
3. Ibid

When supervised or full-time instruction is used, there is actual or personal teaching. Many people believe that typewriting is easy. On the contrary, if it is really learned it is difficult and for that reason needs personal teaching. The reason the typewriting needs closer supervision than many of the other subjects is: "That skill in operation depends almost entirely upon the kind of habits formed, both mental and motor. Each student presents a different problem, and therefore requires the individual study of the teacher. Supervision gives this opportunity. Supervision is needed most at the beginning of and throughout the early stages of the typing course, because a good or a bad typist is made at the beginning". 1

The teaching of typewriting has developed, as has the typewriter itself, from the humblest beginnings to its present importance. The old "sight-method" has been entirely abandoned by teachers, and in its place there is today a scientifically devised method that admits the scientific presentation of the subject-matter of typewriting, and that, in this way, stimulates the economical attainment of skill in the art of typewriting.

An Analysis of Educational Objectives to Be Met Through the Teaching of Typewriting

The formulation of a desirable curriculum in any subject must be based on certain definite objectives, otherwise, the curriculum will be one-sided or too specific in some respects, or too vague and general in other respects. To some extent the objectives determing the curriculum in any commercial subject will be peculiar to the subject, but in most of the essential features these objectives will be the same as those determing the curriculums of other subjects. This is particularly true in the United States where commercial education is regarded as a part of public education, and where the teaching of techniques must, therefore, adapt itself to the general purposes that justify teaching. Even when special objectives seem necessary for special subjects, these special objectives should be justified in terms of the growing needs of the students and of the society of which the students for, or will form, a part.

For all practical purposes the most widely accepted list of educational objectives are those formulated by the National Educational Association and known as the "Seven Cardinal Objectives of Education". These objectives are listed as follows:

1. Health
2. Worthy Home Membership
3. Command of Fundamental Processes
4. Vocation
5. Citizenship
6. Worthy Use of Leisure
7. Ethical Character

Since the publication of the "Seven Cardinal Objectives of Education" in 1918, there have been many attempts to formulate lists of objectives for education. These lists have thus far been mere amplifications or restatements of the seven cardinal objectives. Without entering into any

detailed comparisons the following list of objectives is typical of the attempts made in this direction:

1. Health
2. Leisure
3. Vocations
4. Social Activities

The foregoing list of objectives was suggested by The Unit Curricula Committee of the North Central Association. It closely resembles the National Education Association list in everything except the number of objectives.

It is reasonable to assume that the "Seven Cardinal Objectives of Education" is a listing of objectives sufficiently authoritative and sufficiently accepted by educators to serve as a means of estimating the educational value of any commercial subject.

Let us take typewriting and measure it by the "cardinal-principle" yard stick. First of all typewriting is vocational. The student becaomes qualified to hold a position. He has something which the business world can use and needs, and for which it is willing to pay him a reasonable salary. This in turn makes him self-reliant, industrious, and ambitious. These qualities which vocational independence give are the very qualities that promote good citizenship and worthy home membership. The happy man is the best home make and the best citizen. Typewriting certainly gives training in the command of the Fundamental processes for to become proficient in the use of the typewriter the operator must from the outset, "know how to observe, to study, to think, to plan, to judge, and to act." The typist must be a thinker and a doer. Then again, there is no study in the secondary course outside of hygience and physical training which emphasizes the laws of health more than typewriting does. One of the first

points emphasized is correct posture at the machine. Throughout the course the teacher aims to build up correct technique habits, most of which are nothing more than good health habits. The teacher trains the student to sit properly, to place his copy at the proper angle so as to save his eyes, and to arrange his material so as to save himself energy and time. The proficient typist has acquired these habits and goes into life to do his work with habits that are conducive to good health. Out of the material he copies and the work he does, he will have built up new ideas and new desires which will provide for the proper use of leisure time. For our last consideration we have ethical character. Character is really a by-product of every day conduct and ideals. This is the outcome or reaction to the other six cardinal virtues. Character demands honesty, courtesy, regard for others, reliability, and tenacity of purpose. All these qualities are called forth at some state in the typists learning, and they are demanded often enough to be factors in the formation of the character of the person earning to type.

The typewriting, as a subject in the secondary school, admits of interpretation from the standpoint of educational objectives, and, with the exception of English, it affords subject-matter that can be more readily adapted to those objectives than can the material of any other subject.

The typewriter is definitely an invention designed to meet an economic, and therefore a social, need. The development of the typewriter has made possible a closer attainment of a social ideal in business. The use of the typewriter in business is the performance of a social as well as of a vocational function. The study of typewriting can be socialized as other subjects are socialized in purpose while retaining its values as a science,

as an employment, and as a social unit. When better typists are produced by the schools, better business standards result, and in the proportion of its adaptation to the euducational objectives, typewriting gains recognition as an educational subject.

The Correlation of Typewriting With Other Subjects

Typewriting goes along most with shorthand and English. "Shorthand and typewriting", says Ruth L. Smith in her article in the Baltimore Bulletin of Education," are really English in a new dress as they offer for immediate and practical application every principle of grammar and composition and every rule of punctuation and syllabication, as well as providing daily exercise with spelling lists".

Through the careful selection of drill the correlation of English, shorthand, and typewriting can emphasize any particular principle. The English department through working hand in hand with the typewriting department can build a background for the students, can emphasize principles, can enlarge vocabularies, and cultivate taste and judgment--in other words the students are trained to meet the exacting requirements of modern business and in this way they are able to write for their employers, letters which are wanted and which can be mailed.

All of this correlates with the teaching and use of the Ediphone and Dictaphone. Their successful use is in a large measure dependent on English and typewriting. Then the various duplicating machines are dependent and go along with typewriting as do the billing and bookkeeping machines.

A commercial curriculum could be very well worked out with English, typewriting, shorthand, and bookkeeping as basic subjects. General business training would be the core-subject, and the basic subjects could then be

interpreted in terms of the present status of Business in such a way as to make the correlation between these basic subjects and the core-subject evident. So interpreted, typewriting would be seen to bear essential relationships to English and shorthand through language emphasis, to bookkeeping, through association of its technique and purpose with the present status of Business as:

(a) A profession
(b) A science
(c) A means of employment
(d) A social unit.

TYPEWRITING I

(1) OBJECTIVES

The principal objectives of the teacher

1. Giving information about:

   a. Knowledge needed to become a competent typist
   b. Attitudes needed to become a competent typist
   c. Skills needed to become a competent typist

2. Guiding the student's practice along the most effective paths to make him a competent typist in the shortest possible time.

The principal objectives of the student

1. The origination, improvement, and fixation of practice typing habits on the:

   a. Individual stroking and machine-manipulation level
   b. Combination and word-stroking level
   c. Continuous, sustained-typing level
   d. The production of business and legal typing from from rough draft and copy
   e. The production of business and legal typing from shorthand notes--transcription

(2) 2. To develop the ability to work independently and to turn it out at a commercial speed. Accuracy, speed, endurance, working against time limit stressed.

Semester I

Content of the subject:

The fundamentals of typewriting

Basic technique

Fundamental operations

a. Location of the operative parts of the typewriter, their functions, and the best way of operating them--carriage and keyboard
b. Inserting, straightening, and removing the paper from the machine
c. How to arrange work--very simple arrangement
d. Correct hand position--home key position--curving of fingers and naming of fingers

1. Teacher's Manual for Gregg Typing Techniques and Projects, R. R. Sorelle and Harold H. Smith, Gregg Publishing Co., 1932, pages 8 and 9
2. The Balance Sheet, South-Western Publishing Co., "Our New Commercial Curriculum", O. Paulsen, April, 1932, pages 292 and 293

General instructions

a. Size of paper--use half sheets, line spacing, corrections, margins, use of writing-line and front scales
b. Correct stroking
c. Correct reach-stroking
d. Shifting, capitalization, special characters
e. Paragraphing
f. Centering
g. Words
h. Sentences
i. All fingers trained and keyboard has been covered

Care of machine

Cleaning and oiling

Skill Development

a. Typing of frequent combinations
b. Sustained typing
c. Speed, accuracy, and fluency tests
d. Skill-improvement practice
e. Facility and keyboard review drills
f. Use of progress graph
g. sustained typing tests
h. Easy business letters

Semester II

Content of the subject:

Fundamentals of the business letter, and letter forms

1. Parts of a business letter, and letter forms
2. Analysis of styles or letter forms
3. Letter placement
4. Corrections
5. Carbon copies
6. Envelopes--return address
7. Enclosures
8. Postal cards and postal card exercises
9. Folding and inserting of letters in envelopes--all types of envelopes
10. Unarranged letters
11. Assigned work on letter styles with letters up to 150 words in length in single and double space. Use indented, block, and semi-block
12. Word group and sentence drills
13. Sustained typing assignments
14. Drills on punctuation and syllabication of words
15. Minimum rate on sustained copy, 25 words a minute for ten minutes with five errors or less

TYPEWRITING II Semester I

Content of the subject:

1. Daily repetition practice drill on letters, words, sentences, and paragraphs
2. Sustained typing
3. Fifteen-minute tests for speed and accuracy
4. More difficult form work
    a. Unarranged telegrams and letters
    b. Unarranged handwritten letters
    c. Arranged, unarranged, and rough draft MS.
    d. Use of tabulator--headings and planning
    e. Arranged and unarranged tabulations
    f. Bills and statements
    g. Pay rolls, price lists, bills of lading, commercial drafts and bank drafts
    h. Checks, notes, receipts
    i. Envelopes--care of, attention of, return address, feeding envelopes, window envelopes
5. More difficult and longer letters in different set-ups
    a. Indent styles--single and double space
    b. Block style
    c. Semi-block style
    d. Full-block style
    e. Hanging indentation style
6. Stencils
7. Machine dictation

Semester II

Content of the subject:

1. Daily repetition practice drill on letters, words, sentences, and paragraphs
2. Fifteen-minute tests for speed and accuracy
3. Tables and statistical matter
4. More difficult form work
    a. Letters--all styles--two-page letters
    b. Unarranged bills and statements
    c. Tabulations
    d. Telegrams, cablegrams, radiograms
    e. Transcription from shorthand with drill on spelling, punctuation, and English stressed
    f. Index cards
5. How to rule on the typewriter
6. Legal and business documents

7. Transcription from shorthand notes
8. Discussionon, and exercies on written and personal applications
9. Real work for the school
10. Minimum rate of 45 words a minute for 15 minutes with 5 errors or less by the end of the year

PART VIII

SUMMARY AND CONCLUSIONS

The influence of the typewriter on Education has been two-fold. The demand for trained typists caused the establishment of company schools, the growth of business schools, and the introduction of commercial courses into public schools. On the one hand, the typewriter as a business factor required only that the schools provide trained typists, but, on the other hand, the close association of the typewriter with business purpose and the introduction of commercial courses into the public schools enforced the need of relating the teaching of typewriting to the ideals of Business and to the objectives of Education. In general it may be said that:

1. Typewriting is an essential course in any commercial program
2. It is not necessary that every person develop a high rate of speed, except in the case of those pupils who are preparing definitely for positions as stenographers and typists.
3. Those people who are going into general business should have knowledge of the typewriter and its operation
4. The personal use of the typewriter is growing each day
5. Accuracy in typewriting is of prime importance
6. In the beginning it is best to allow students to pass in papers with errors rather than to ask them to pass in only one perfect copy. If you insist on only one perfect copy the student is likely to become discouraged. Then when he gets a chance he rips out the paper without completing it. As the importance of accuracy has been impressed on the student, and as he has time to become accustomed to the use of the machine a greater degree of accuracy can be required.
7. Because typewriting is a drill subject and practice must be regular, the class should meet five times a week.
8. The typewriting period should not be less than forty minutes long. The best length is forty-five minutes.
9. Commercial subjects, methods of teaching, have changed and are still changing to meet changing business conditions.
10. Methods of teaching typewriting are not fixed. There is a constant interest in improving all phases of the teaching of typewriting.

11. Teaching in typewriting now emphasizes quantity and quality under stress of time.

12. Typewriting has becaome a major subject in the high school commercial curriculum

The influence of the typewriter in Business, Education, and Society is, perhaps best summarized in the following paragraph from "The Story of the Typewriter", by the Herkimer County Historical Society, Herkimer, New York.

> "The typewriter has made itself such an essential factor in modern life, it has become so necessary to all human activities, that the present-day world could hardly be conceived without it. It is hard to name any other article of commerce which has played a more commanding role in the shaping of human destiny. It has freed the world from pen slavery and, in doing so, it has saved a volume of time and labor which is simply incalculable. Its time-saving service has facilitated and rendered possible the enormous growth of modern business. The idea which it embodied has directly inspired many subsequent inventions in the same field, all of which have helped to lighten the burden of the world's numberless tasks. In its broad influence on human society, the typewriter has been equally revolutionary, for it was the writing machine which first opened to women the doors of business life. It has radically changed our modern system of education in many of its important phases. It has helped to knit the whole world closer together. Its influence has been felt in the shaping of of language and even of human thought."

The typewriter is definitely a product of the Industrial Revolution. As such its influence has been felt in the expansion of industry and in the development of the attitudes and ideals that have made Modern Business a reality entirely different from anything that has preceded it. Business today may be regarded as a profession, as a science, as a means of employment, and as a social unit. In each of these manifestations of modern business, the typewriter is an important element.

As a profession, Business subordinates the <u>profit motive</u> for the <u>service motive</u>. The fact that it is possible to make a profit through rendering a service does not disturb the professional status of Business, provided the <u>profit motive</u> is subordinate to the <u>service motive</u>. The invention and development of the typewriter has been primarily a service

to mankind, and it is interesting to note that, despite the profitable uses of the typewriter in business, the most progressive developments of the typewriter have been initiated with the purpose of making the typewriter more serviceable, while the results of these developments have made an increasing number of services possible in business. Some of these services are so important in their own right as to justify the classification of certain forms of typewriting as professional, but the significant factor in the history of the typewriter is that the typewriter represents a distinctively professional contribution to the profession of business.

As a science, Business is organized on a systematized basis that provides for the proper handling of complex relationships and involved details, while it effects results with economy, certainty, and permanence. Communication of information and recording of data are essentials in scientific control of business. The typewriter has no small part in making both of the foregoing essentially a real factor in modern business. Communication has become more rapid and more legible through the use of the typewriter, and records have becaome more authentic and permanent than they could have been in the days of the "goose-quill" correspondent. The fact that the typewriter economizes time, increases the certainty of correspondence, and insures the permanence of records is no small part of its contribution to the science of business.

As a means of employment, Business makes possible the conversion of "resources into want-gratifying goods". This process is today closely identified with the use of gold as a medium of exchange rather than as wealth in itself. When large numbers of people can be gainfully employed in the production and marketing of "want-gratifying foods", these people

will, in turn, acquire greater wants and consume more goods. The typewriter had made possible a vocational outlet for large numbers of people, and has thus made a direct contribution to Business as a means of employment.

As a social unit, Business satisfies the needs and affects the interests of large groups of people while it influences the regulation and control developed within these groups or set up by related groups. The invention and development of the typewriter provided for women a gainful employment that brought them the opportunity of securing economic independence, and that finally resulted in governmental regulation of industries in which women were employed. Some of this governmental regulation was a direct result of demands made by women themselves through their gradual attainment of economic and political freedom, while a large part of such regulation was the result merely of the increased employment of women in business. From either point of view, the typewriter influenced Business as a social unit, and was, to a large extent, the greatest single contributing element in the improvement of the economic and social status of women.

The Typewriter in Business has been the most effective instrument in the growth of business as a profession, a science, a means of employment, and a social unit. Its invention has made possible the elevation of the "copist" task to the professional level, has facilitated the recording of data on which the scientific organization and conduct of business depends, has opened up new vocational outlets, and has provided opportunity for the increased employment of women in business. Perhaps the last of these contributions is the most important for the increased employment of women in business has:

1. Brought about many betterments in the material expansion of the business office.

2. Forced factory and office legislation that gave business social purpose.

3. By making women self-supporting, contributed largely to the movement called Feminism.

4. Made possible higher standards of living

5. By opening up business and professional pursuits for women, made possible their occupational progress, their emancipation from traditional prejudices, and their exercising of influence on the economic, social, and political status of business and society.

That women are beginning to be recognized as something more than mere drudges in the home is best understood by considering the number of women now holding important positions. In England, and now in America, a woman hold a cabinet position. Nearly every newspaper gives over some of its pages to the accomplishments of women. The routine work of nearly every office is dependent for its completion on women. Women, as private secretaries, have gained recognition and promotion by making their service indispensable to their employers, and these women have often been consulted in important business decisions. This recognition of women by business holds great significance for society as well as for business. Although the recognition has been long delayed, women are demonstrating their ability to deserve it. Perhaps the recognition would have come in time, but it is a reasonable assumption that the development of the typewriter hastened the recognition of woman's ability in business. It is significant that of the number of women who attain executive responsibility in business, a large majority have been, at one time or another, typists, stenographers, or private secretaries. The stenographer and typist came into business to satisfy a need made evident through the invention of the typewriter. Her coming opened up the way for other women to follow. Economic freedom was won, and the Feminist movement was thus given its greatest force. Suffrage, social freedom, full participation in public affairs, redemption from mere

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